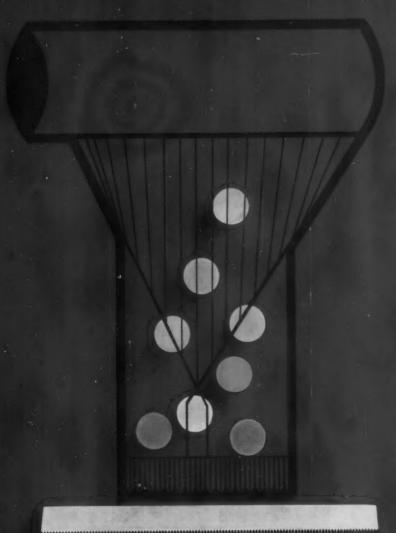
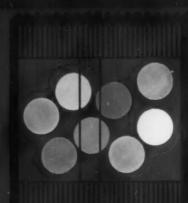
MODERN PACKAGING



CREAT PACKAGING DISCOVERIES: The continuous pouch pechager

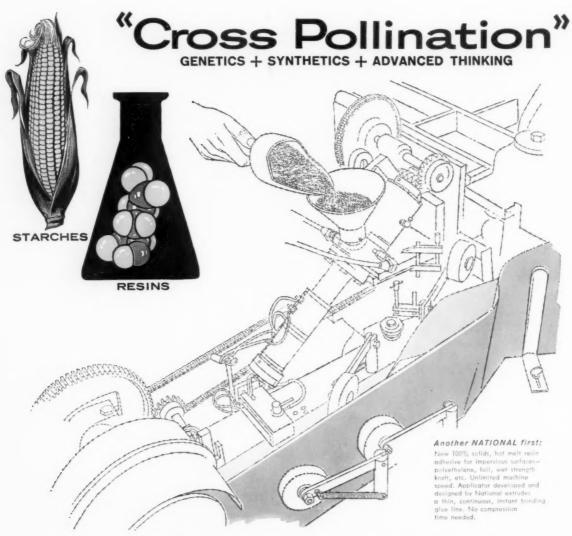


APRIL 1960

Reported consurt

The Food Crisis outcome

- inside front cover



Creates basic advances in Package Making

The genetic "cross pollination" of hybrid corn to produce unique strains... and the chemical "cross pollination" of corn starch to produce unique starch derivatives... plus "cross pollination" with vinyl acetate polymers and copolymers in emulsion form... have given NATIONAL complete flexibility of formulation in creating new and unique starch and resin adhesives for packaging.

That's one great advantage.

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matched technical service. It's based on the "cross pollination" of our advanced thinking in adhesive research and our broad technical field experience.

This unique "cross pollination" of genetics, synthetics and advanced thinking has resulted in a wealth of know-how, not generally possessed by individual packaging companies.

NATIONAL's "cross pollinated" technical service is available for the asking . . . to help build product features that become decided competitive advantages for you.

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750 THIRD AVENUE, NEW YORK 17, N. Y.



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It's safe to do your holiday wrapping early—a year early, when the wrapping material is VITAFILM.

In the case of the unbreakable Christmas tree ornaments shown here, the packaging is done as many as 14 months before the contents go on sale. The reason: VITAFILM provides all the protection needed to see the goods through to the ultimate consumer.

This tough, clear Goodyear film seals to a positive welded seam. In addition to long shelf life, it withstands temperature changes, rough handling, doesn't split or run, doesn't attract dust, prints beautifully.

And it adapts readily to all types of automatic packaging machinery. Whatever your product or problem, it'll pay you to investigate VITAFILM. Superior in many ways, unique in some, it's near perfection in low-cost packaging protection. Your Goodyear Packaging Representative can give you further details, or write: Goodyear, Packaging Films Dept. P-6418, Akron 16, Ohio.

Manufactured by Bradford Novelty Company, Inc., New York, N. Y.

HRISTMAS





GOOD YEAR

Vitafilm, a Polyvinyl chloride-T. M. The Goodyear Tire & Rubber Company, Akron, Obio

The best thing between you and your customer

77 The role of the laboratory

Even today, too many product-packaging company managements are unaware of the money-saving and money-making contributions that are offered by packaging research. As an example of what can be done, consider the case of Bristol-Myers. For an annual investment that represents only one-tenth of 1% of sales, its Products Division cuts packaging bills by as much as \$500,000 a year while harvesting the point-of-purchase benefits of hundreds of new and improved packages. You can profit from this experience.

General interest.

83 Three chances to face forward

Full-size vertical illustrations of Bromo Seltzer's blue bottle on three side panels of the carton triple the chances of "label-to-the-front" alignment on store shelves and make the most of familiar identity. In the bargain, switch to one-color printing that simulates actual bottle color brings down the over-all cost of packaging. Special interest: foods, drugs, toiletries, cosmetics, supermarket chains.

Inside front cover

A special press-time supplement covering the status of food-packaging materials under the Food Additives Amendment which became fully effective March 6. With a burst of approvals, acceptances and extensions at the deadline, F&DA has at least postponed the food crisis.

FRONT FEATURES

39 Background for Packaging

Notes, quotes and comments on significant news.

50 Equipment & Materials

Suppliers' announcements of new products.

67 Sounding Board

We ask the readers: Which packaging development of the '50s do you consider most significant? Which is most important to you? Part I.

69 World Report

Abstracts from foreign packaging magazines.

75 Editorial Memo

"The morning after."

84 Bottle from plastic sheet

From France comes news of the first commercial application of a radical new principle that promises exciting economy and efficiency for liquid packagers on this side of the Atlantic. At 30-per-minute speed, fin-sealed bottles for liquid detergent are formed automatically from a single sheet of 14-mil polyvinyl chloride. Filling is done through the oval-shaped container's open top, which is heat sealed and capped. Test marketing has proved the PVC container's mettle.



Special interest: soaps, detergents, toiletries, drugs, beverages and other liquids.

8 Stick-on blister

Worth attention by packagers operating short-run production lines is an innovation, adopted by Coastal Abrasive & Tool Co., which makes blister packaging a low-cost, fully manual procedure. The secret is that the blister comes pre-coated with pressure-sensitive adhesive, so hand pressure is all that's required to adhere it firmly to the hang card. There is no need for special heat-sealing equipment or for die-cut, folded cards.

Special interest: hardware, small parts, accessories,

90 Adjustable tape sealer for shippers

At Manhattan Shirt Co.'s packaging center, a self-setting case-closing taper has broken a bottleneck in the sealing of shipping cases. The automatically adjusted, straight-line mechanism employs simple electro-mechanical techniques to handle the company's 13 sizes of shipper in random sequence. Its use has reduced down time and packaging costs, and has increased the output of the entire packaging department. General interest.

94 Trend to films for bread

Significant to all packagers who use or want to use a transparent wrap is the recent growth of soft plastic films in the bread-wrapping field. This trend offers convincing evidence that even the most stubborn

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problems of automatic overwrapping can be solved, for if men can meet the challenge of securely packaging at favorable speed such a tricky item as a loaf of bread, obstacles to similar handling of other products will fade away. Here is a thorough examination of developments in machinery and films for bread wrapping that are certain to make their impact felt in many other areas. Special interest: foods, apparel, textiles, paper goods.

104 The continuous pouch packager

A Great Packaging Discovery. Nearly three decades ago, the packaging-cost problems of a depression-staggered candy company triggered development of the first form-fill-seal pouch machine. This simple cellophane-folding and heat-sealing device achieved higher speeds and greater economy in the packaging of unwrapped candies. Virtually unchanged in basic mechanical details to this day, the machine has altered the packaging techniques and merchandising patterns of innumerable businesses. General interest.

106 Award-winning folding boxes

Continued progress in imaginative features and product visibility are evidenced by the 100 prizewinning entries in the Folding Paper Box Assn. of America's 1960 competition. Winners demonstrate a trend toward modern design, bold color and abstract art. Foil also is much in demand by the nation's folding-box user companies. General interest.

112 A package rescues a business

There's a lesson for all packagers in the experience of Flav-R-Straws. On the brink of bankruptcy, the company revitalized its consumer carton to project taste appeal and to tell the product story more graphically. In addition, a display unit better geared to retailer realities was introduced. Result: an immediate sales boom. General interest.

116 PVA pouches at high volume

A Swedish company attains the high speed of 120 units per minute in packaging detergent-and-bleach powder in water-soluble PVA film. Economy is achieved by using twin-head form-fill-seal machines equipped with Teflon-coated impulse jaws that quickly form, then air cool the molten seals. These modifications eliminate the need for such expensive aids as glass-cloth shields and extrasensitive controllers to handle the tricky film. The pillow pouch reduces the number of heat seals and thereby saves film. Special interest: detergents, soaps, chemicals.

TECHNICAL & ENGINEERING

121 Containerization

The trend toward standardized, demountable cargo units for land, sea and air carriers holds the promise of enormous savings in labor, time and money. But the problem of fitting containers to cargo spaces demands that the packaging engineer, when planning package dimensions, take into account new developments in shipping containers, pallets, materials-handling equipment and the ultimate cargo spaces. By Martin S. Peterson.

130 Questions & Answers Advice on readers' technical problems.

DEPARTMENTS

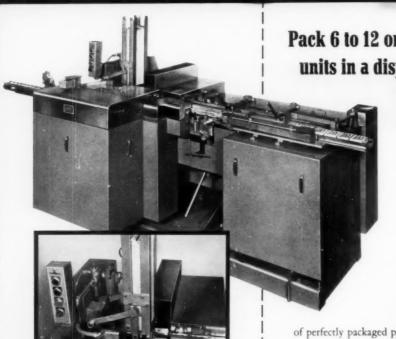
- 92 Ideas in Action Best examples of package construction and design.
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- 114 Cost Cutters Techniques for reducing the costs of packaging.
- 134 Plants & People Monthly record of expansions and promotions.
- 158 For Your Information Association activities, events, book reviews.
- 162 U.S. Patents Digest Abstracts of new issues affecting packaging.
- 169 Manufacturers' Literature Checklist and postcard for your convenience.
- Index to Advertisers
 Handy way to find the news in the ads.

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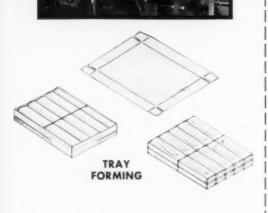
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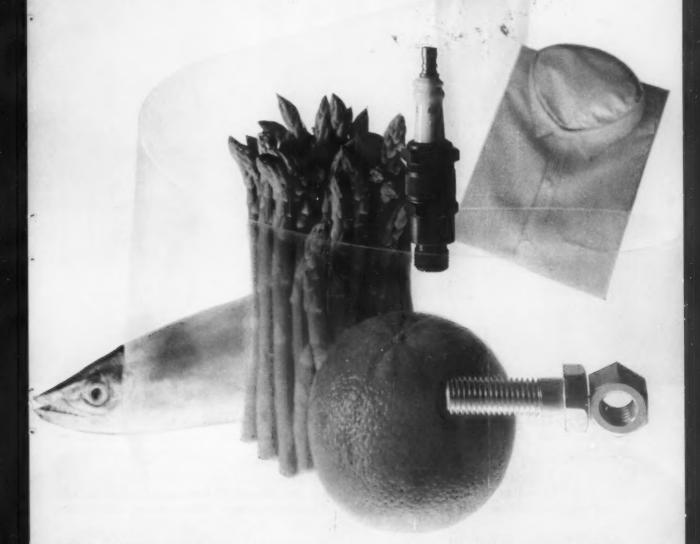
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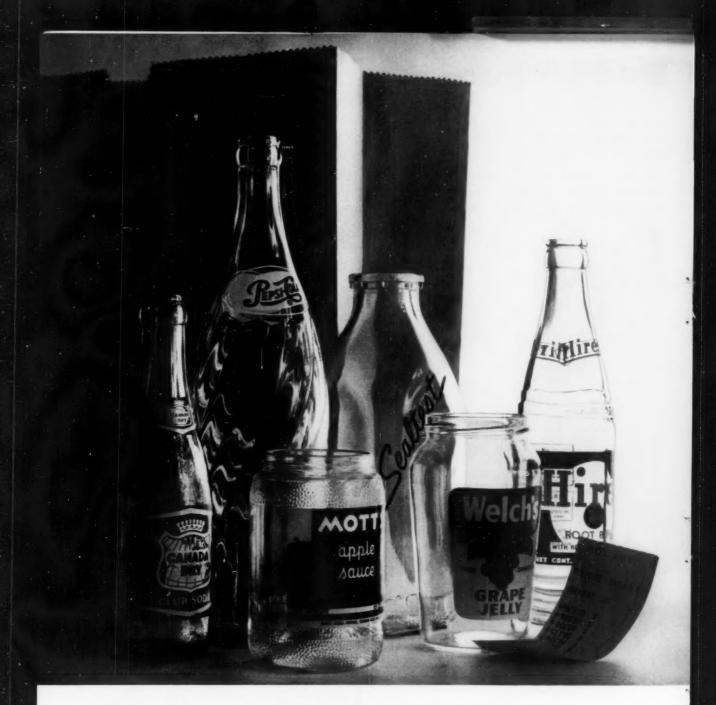
The Mock Seed Company markets wild bird seed in Dobeckmun polyethylene packages. Says Mock, "In snowy, wintery weather, this package holds the same appeal for customers as the contents do for our feathered friends."

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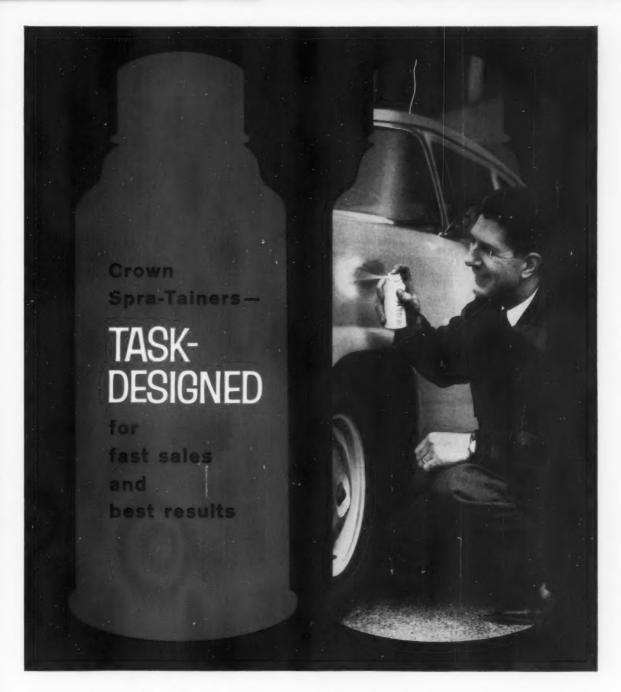
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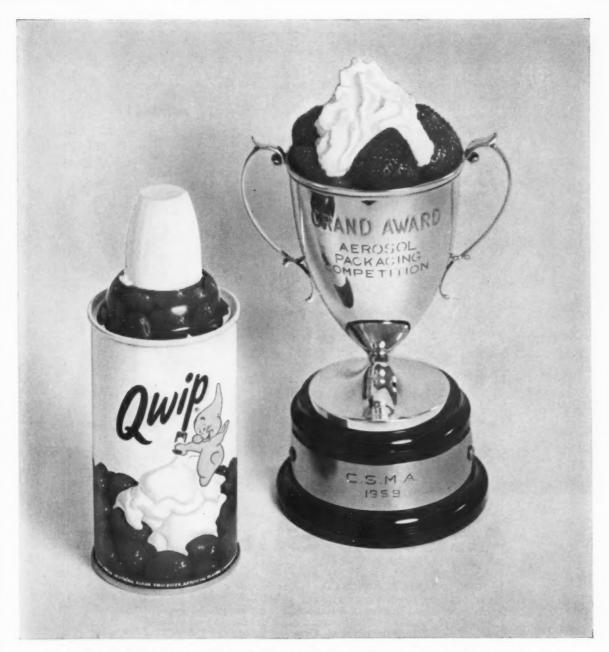
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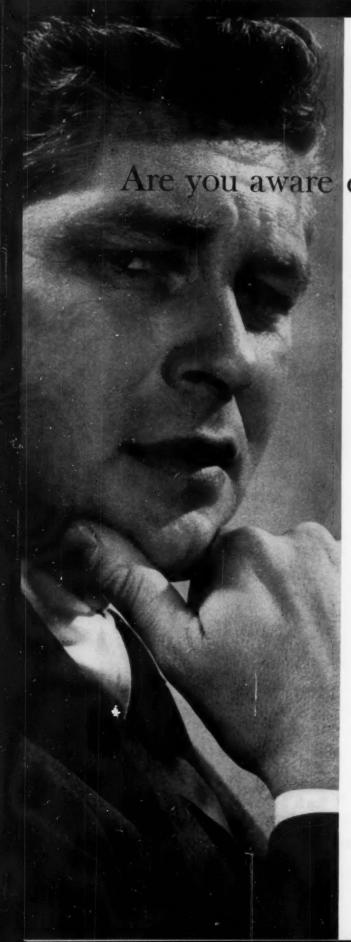


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POLYCHEMICALS DEPARTMENT



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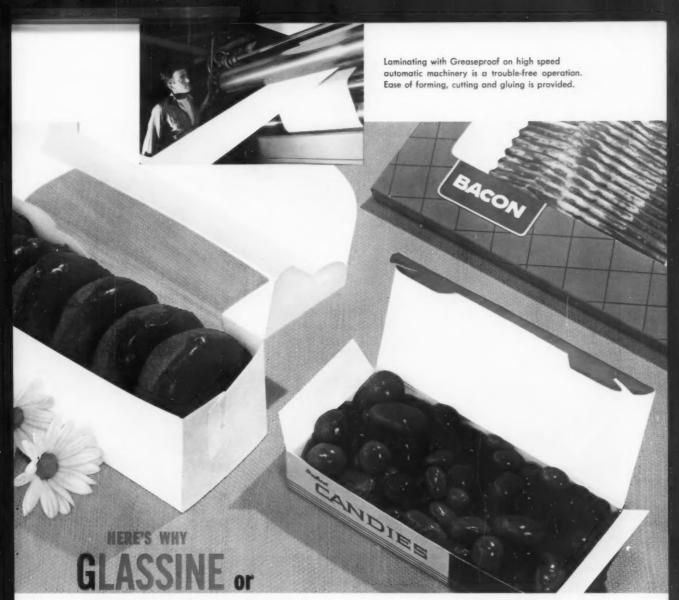
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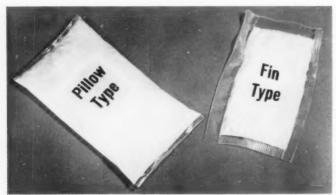
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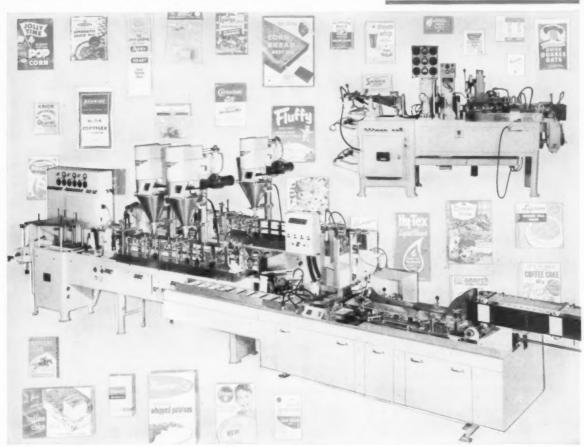
Consider these natural sales features offered by Mono-Sol's PVA Film. It is the world's easiest dispenser, requires no opening nor messy handling. No weighing or measuring, provides user with correct amount every time. Nothing to discard, user just drops package into cool or hot water and stirs. Film completely dissolves, releasing contents into the solution. Completely transparent, user sees contents clearly. Strong and stable, it will not crack in low, nor melt in high humidities. It is impermeable to oxygen, nitrogen and other gases and is resistant to oil, aromatic and petroleum solvents.

Samples and full technical data available. For evaluation or market testing, Mono-Sol will make limited runs of filled water-soluble PVA pouches using your own product. Please indicate the nature of your product and how many units you will need. Write today



MONO-SOL CORPORATION 407 County Line Road, Gary, Indiana

There is No Substitute for...Dependability!



FOR LARGE JOBS OR SMALL...

BARTELT MACHINES ARE A SOUND INVESTMENT!

You Can Depend on Bartelt for:

- Quality Output Superior seal strength, high filling accuracy and minimum package distortion assure the highest package quality.
- Versatility Designed for fast change-overs as well as a wide range of package sizes and types;
 Bartelt versatility is unmatched.
- Rugged Reliability Bartelt machinery has re-

peatedly been proven capable of meeting the highest production requirements.

- Minimum Upkeep The simplicity, accessability and ruggedness of Bartelt equipment assures minimum maintenance costs.
- Custom Design—Each Bartelt machine is designed to meet the customer's specific requirements.

Where unfailing quality counts . . . Bartelt!

"Machinery for Creative Fackaging"

BARTELT ENGINEERING COMPANY

1900 HARRISON AVE., ROCKFORD, ILLINOIS, NEW YORK OFFICE: 370 LEXINGTON AVE., N.Y.C.

For efficiency and savings available in no other machine of this type, introduce your products to the



MODEL ST - 12, 18, 24 POCKETS

-the startling, all-new machine designed, developed and perfected by FMC for filling granular, free-flowing products into cans.

Incorporated in the FMC Flexi-Filler are wayahead features of design and construction found in no other can filler. Its broad adaptability to handle free-flowing granular products (see partial list below), coupled with the ease of changing from one can size to another in a range from 211 to 603 diameters, give the Flexi-Filler a real flexibility all its own.

Here are just a few of its important features:

- Individual cut-off gates move with the pocket, eliminating "dead plate" abrasion problems, and permitting a highly accurate pre-measurement into telescoping pockets - with no product damage.
- Synchronized straight-line can travel greatly simplifies can handling. Cans are indexed positively under filling stations, in a fill-and-

travel sequence that carries them through only 40° of filler's perimeter before they resume straight-line travel. This permits speeds up to 300 cpm, depending on can size and product.

- · Individual Pocket "No can-No fill" prevents discharge from pocket unless can is properly positioned under it. Reduces spillage and
- · Cleaning up, no matter how frequent, is made easy because new design prevents product build-up, and permits thorough wash-down.

Your CMD representative will give you complete details and furnish recommendations based on your specific products and requirements. Call him today, or write the general sales office nearest you.

Designed for such products as:

Barries Cherries Frunes Apricot Halves Peaches, diced or sliced Beets, small whole or diced Carrots, diced Potatoes, diced Lima Bean

Kidney Beans

In addition, the Flexi-Filler will handle such specialty products as popcorn, hard candies, nuts and blanched ravioli.



Putting Ideas to Work



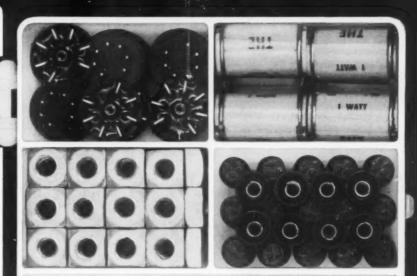
FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

General Sales Offices:

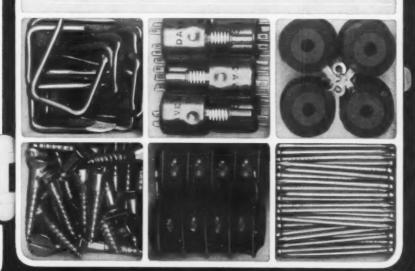
WESTERN: SAN JOSE, CALIF. . EASTERN: HOOPESTON, ILL.

24-Pocket Machine, illustrated with automatic hopper and remote control leveling brush accessories



This <u>unbreakable</u> plastic utility box is the <u>lightweight</u>, safe way to package and ship any mite-size product or family of products. It is <u>reusable</u>, too.

In 17 sizes and compartment variations plus wide range of colors. <u>Transparent</u> plastic utility boxes also available in 24 sizes and compartment variations.



For new catalog, samples and prices, write to



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Some sales territories still available to qualified representatives

date

CHECKS PERSPIRATION TOO!

THREE
Bakelite

PLASTICS

Reauty and simplicity, from top to bottom, are the keynotes of this plastic package for Mennen's "Date-Line" deodorant for young women. They are a result of the packaging and plastics "know how" that went into its creation.

The Mennen Company not only wanted a package with eye-appeal but one with working parts for "buy-appeal." Three different Bakelite Brand Plastics—high-density polyethylene for cap, screw-washer and cup; general purpose styrene for barrel; and impact styrene for screw—work together to make this package work.

The tight-fitting cap, tough enough for the packaging operation—and constant consumer use—perfectly matches the slightly tapered barrel in gloss and gleaming color. The cup, which holds the deodorant, moves along the impact styrene screw and conforms perfectly to the tapered barrel—it's strong yet just flexible enough.

An unusual package like this depends largely on having a selection of the right plastics to work with. Union Carbide Plastics Company has the largest variety of plastics for packaging available. Each is engineered for a specific packaging job. Each is capable of complementing other plastics in more complex package design. Find out how this can mean production savings and improved product performance for you. Write Dept. DD-70G, Union Carbide Plastics Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Union Carbide Canada Limited, Toronto 7.

Make a Beautiful Packaging Idea Work





105! YEAR

To Sorve Your Industry Better

WITH THESE ADHESIVE PRODUCTS

RESINS AND RUBBERS IN EMULSION OR SOLVENT - DRY, LIQUID AND FLEXIBLE ANIMAL GLUES - LIQUID DEXTRIN ADHESIVES

Swift's new high-speed resin adhesives have stronger tack with better machine-ability. And they have higher strength and greater resistance to moisture as well! Swift offers a complete line of packaging adhesives for the most specific applications. Swift's 23 adhesives plants give prompt, courteous and authoritative service throughout the United States and Canada.

Be sure your packaging adhesives are profit-makers. Call your Swift Adhesive Specialist, or write for additional details to:

SWIFT & COMPANY

Adhesive Products Department, Chicago 9, Illinois

tangible Something Called Class...

It Shines Forth From Every Carton Made of No. 90 ULTRAGLOSS

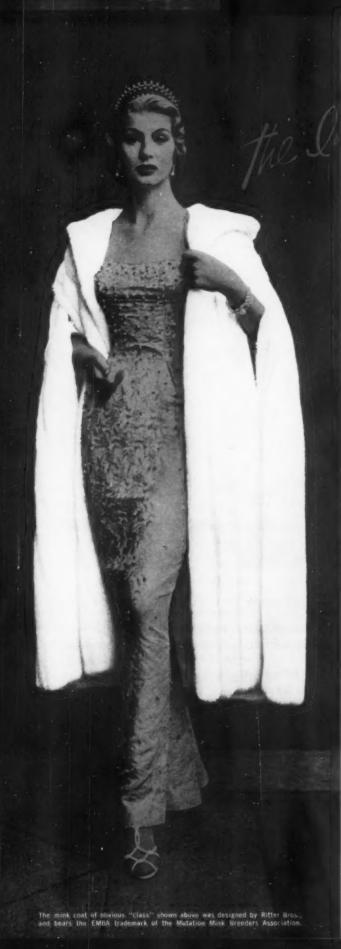
There's no mistaking the look of superiority and distinction-the class-that radiates from cartons made of No. 90 Ultragloss. The incomparable gloss, gleam, and beauty of this glazed-finish boxboard convey an impression of elegance and quality at a glance. What is more, No. 90 Ultragloss prints well by any process... has excellent folding, embossing, and gluing qualities . . . is resistant to scuffing, fading, and discoloration. The most unique of all Ridgelo clay-coated boxboards, No. 90 Ultragloss is made in white and pastel colors, in a choice of white or gray backs, and it actually costs less than other high gloss brands. For "show piece" cartons, and many types of promotion pieces, No. 90 Ultragloss has no equal!

LOWE

Ridgefield, N. J.



REPRESENTATIVES/Detroit—Joseph P. Giroux/Les Angeles—Norman A. Buist Philadelphia—Philip Rudolph & Son, Inc./St. Leuis—A. E. Kellogg



The case of the



MISS WATSON: Put down that hammer, Fearless, I'll get your correspondence typed.

FEARLESS FULLER: Fear not, Miss Watson, I was just going to hang up another memento of one of my recent cases.

MISS WATSON: Hmmmm. Other offices have wall-to-wall carpeting. We have wall-to-wall pictures.

FEARLESS FULLER: Well, a man must have his memories, you know.

MISS WATSON: I guess that's right. And I imagine you must have some fascinating ones.

FEARLESS FULLER: Yes, when you make as many adhesives as Fuller does, you get into solving a wide variety of cases.

MISS WATSON: And I imagine, when you run into a particularly tough problem, you must thank your lucky stars you have such a skilled adhesive laboratory team to help you out.

FEARLESS FULLER: How true. Sometimes it's almost a mystery to me how fast we come up with precise solutions.

MISS WATSON: I suppose. But tell me, Fearless, what was your most interesting case?

FEARLESS FULLER: My most interesting case, Miss Watson, is always the next one.

MISS WATSON: You mean, the challenge of the problem is what makes it interesting.

FEARLESS FULLER: That's right.

MISS WATSON: Well, speaking of problems, Fearless, I have one right now.

FEARLESS FULLER: What's that, Miss Watson?

MISS WATSON: Trying to remember where I put the tacks you hang up the pictures with.

FEARLESS FULLER: Well, we can always use Fuller's glue.

As I always say, there are very few problems a Fuller man can't solve.

Your Fuller man is ready with the correct solutions on any adhesive problems for you, too. Contact your nearby plant.

H.B. Fuller Co.

INDUSTRIAL ADHESIVES

St. Paul, Minnesota

St. Paul, Minn. • Atlanta, Ga. • Buffalo, N.Y. • Chicago, Ill. • Cincinnati, Ohio Dallas, Tex. • Kansas City, Mo. • Linden, N.J. • Los Angeles, Calif. • Memphis, Tenn. • Portland, Ore. • So. San Francisco, Calif. • Tampa, Fla. Also Winnipeg, Can. • Fuller Adhesives International, Nassau, Bahamas

Planned Packaging moves merchandise

Here's an artist who <u>sells</u> your merchandise

This man and many others like him on Packaging Corporation of America's technical staff devote themselves to selling your products. Cooperating with product development and production engineers engaged in constant improvements of packaging materials and methods of all types, they form a creative team. Under their skilled hands the container or carton is transformed into a colorful. appealing creation that works for you in transit, promotes its contents from shelves and counters, invites buyers to reach for it. Experimenting with color arrangements, with special inks and a variety of printing processes . . . theirs is a continuing quest for all the ways in which artful package exteriors can sell harder. Bringing this ingenuity to the design of your packaging is but one of countless ways in which Packaging Corporation of America's concept of Planned Packaging, implemented through integrated national facilities, produces better packaging . . . more sales. Whether your requirements are large or small, regional or national, we welcome the opportunity to help you.



Packaging Corporation of America

1632 CHICAGO AVENUE, EVANSTON, ILLINOIS

 $Cartons \cdot Containers \cdot Displays \cdot Egg \ Packaging \ Products \cdot Molded \ Pulp \ Products \cdot Paperboards$

SPINSONS JAZING HAZIRSANA RENTO Perfect Mate ANOTHER AMERICAN OPTICAL SHOWFIECE DESIGN





Costume Frames & Custom Packaging

...thanks to American Optical and **Dennison** teamwork

"Sales exceeded all expectations" when American Optical Company designed double beauty into a single frame. Unique, interchangeable "colorettes" allow wearers of prescription glasses

Poleotillate

to match their frames to their costumes, jewelry or moods.

Dennison contributed to this success story by creating a take-home case to look at home on any dressing table . . . and machine producing it at a cost no other source can equal. This bevel-based, spring-hinged box . . . with vacuum-formed velour platform . . . is typical of the extra value economically added to high quality products by America's first manufacturer of set-up boxes.

Add extra value to your next merchandising boxes , , , by adding Dennison to your merchandising team.

Creative suggestions and cost quotations promptly delivered. Let's get together soon.

Write: Dennison, Box Division, Marlboro, Massachusetts

Dennison

HELPING YOU COMPETE MORE EFFECTIVELY



Booth 138, Packaging Show April 4-7 • Atlantic City This man is saving hours of precious press time. He is setting up a rubber plate job the fastest, most accurate way yet devised...on a precision Mosstype "Mounter-Proofer" machine. And, in remarkably short order, he'll have a color proof of the complete job — graphic evidence that it is ready to place on the press and print without further preparation. You too can achieve more output per shift with the same printing equipment...save valuable productive time now spent in mounting, making ready, registering, proofing and adjusting plates on the press. Write today and get the facts about the "Mounter-Proofer."



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. MOLDED RUBBER PRINTING PLATES . CONTINUOUS DESIGN ROLLERS . RUBBER PLATE MOUNTER-PROOFER MACHINES . "D-MOUNT" RUBBER PLATE CYLINDERS

Pacific Coast: BOJANOWER MACHINERY SERVICE CO., Los Angeles « Canada: MANTON BROS., LTD., Toronto

MOSSTYPE, "D-MOUNT" and "MOUNTER-PROOFER" are registered trademarks

Whether it's in-store or



in-plant packaging

MARATHON has the answer

You can't escape it. You find Marathon materials wherever food goes into packages—in prepackaging rooms of supermarkets everywhere; on high-speed, automatic packaging lines of leading food processors.

Long America's leading supplier of food packaging, Marathon makes sure its packages do many jobs—"fill" rapidly, "protect" thoroughly, "sell" swiftly. Marathon package

designs on paper, paperboard, film and foil . . . Marathon's lead in fine fidelity color printing . . . produce packages that keep stock boys busy restocking shelves.

When a packaging problem concerns machines, materials or merchandising . . . and requires a quick solution, remember: Marathon has the answer. Marathon, A Division of American Can Company, Menasha, Wis.

you can't beat marathon





Offices in Principal Cities • In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

DYLITE® expandable polystyrene, SUPER DYLAN® polyethylene and DYLAN® polyethylene are other fine packaging plastics produced by Koppers Company, Inc.



BIG SQUARE CANS at 75 gallons per minute

A Hamilton 202-L Bodymaker is doing just that at Sherwin-Williams' Chicago plant. It produces gallon-sized can bodies at a steady rate of 75 per minute. This same machine, with minor accessory changeover, will produce can bodies in the following shapes and sizes:

- ROUND CANS 3½" diameter x 7¾" high 2" diameter x 12" high
- Rectangular 4½" x 3 5/16" minimum base size 8" x 5" minimum base size
- SQUARE 61/2" x 61/2" minimum base size

It produces round cans at twice the speed—150 per minute.

A Hamilton Model 304 Rotary-Flanger, used in conjunction with this Bodymaker at Sherwin-Williams, leisurely but precisely handles this rate of can bodies. Finite tolerances on all parts of both machines permit perfect, unscratched production of cans which are, for many runs, lithographed in the flat.

Hamilton makes a complete line of the fastest can making machinery available. It can make profits for you right now. Write for information and literature today.

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NOW! FROZEN STRAWBERRIES WITHOUT A CAN OPENER!

Fibreboard Again Solves Industry Need-With New Fibrematic® Container.

The nation's leading frozen food companies are now packaging frozen strawberries in Fibrematic. With its built-in plastic-coated liner, Fibrematic: provides better protection at lower cost; fills easier and faster*; opens quickly without any utensils. And future product applications for liquid-tight Fibrematic are virtually unlimited!

Fibrematic exemplifies Fibreboard's ability to serve you. Fibreboard is the only major carton and container manufacturer in the U.S. whose entire marketing effort... scientist to salesman... is organized to meet the marketing *200 per minute

problems in your specific industry. And for actual package production, Fibreboard's facilities are the largest, most modern in the whole wide West!

For any possible packaging assistance, phone or write: Fibreboard Paper Products Corporation, 475 Brannan Street, San Francisco, California.

Where Specialists In YOUR Market Work On YOUR Packaging Needs...

FIBREBOARD

Chicago, Denver, Los Angeles, New York, Omaha, Seattle and other major cities

Fibreboard also serves the West with its complete line or building and decorating materials . . . marketed under the Pabco banner since 1884.

Background for Packaging

Packagers will fight a move by supermarkets to demand guarantees from them as to compliance with the Food Additives Law. Sponsored by the Super Market Institute, the suggested guarantee form would make packagers legally responsible for any customer claims arising out of non-compliance. Since the law specifically places liability on the packager and shipper of the food, not the retailer, packagers say this is unnecessary.

A new complication in the food-additives packaging situation, now that the Federal crisis has simmered down, is the prospect of state legislation along similar lines. New York already has a bill in the hopper (known as the Metcalf Bill) which would make use of chemicals in food packages subject to the same in-state restrictions as now apply to interstate commerce. No trouble will arise if state bills are identical, but differences in rules and interpretations would play havoc with nationally distributed foods. Assn. of Food & Drug Officials will study the problem.

Watch the development of vinyl and polystyrene polymers in the form of highly oriented fibres, which could add significant new properties to such packaging materials as specialty papers, molded pulp and paper, and laminates. Multi-directional strength imparted by such fibres might make paper, for example, readily thermoformable into strong, low-cost containers. Union Carbide has already announced that it has oriented fibres, both vinyl and polystyrene, available in developmental quantities.

Look for news in glass as glass-container makers intensify research to meet increasing challenge from paper, metal and plastics. In the works is a strengthened, lightweight, one-trip milk bottle (similar in principle to the successful one-way beer bottle) which is counted upon to recoup glass containers' five-year drop from 58 to 43% of the milk-container market. Colored glass with ultra-violet filtering properties will be much in evidence: red and amber for milk and other dairy products; green for beer, wine and soft drinks. In some cases color will be imparted by new, tough chemical coatings—also counted upon to strengthen lighter-weight glass.

Rack jobbers are beginning to move into the produce-packaging field. Hobbs Banana Co., El Paso, delivers more than 40 items to about 100 supermarkets in the area, using central mechanical-packaging techniques that would be impractical for in-store use. A similar operation is conducted by the Pre-Pak Co., Chicago. According to Super Market Merchandising, the jobbers not only offer a better packaging job at less cost, but they work with stores on a guaranteed-sales basis, with gross-profit percentage set according to store volume.

How many people does it take to handle packaging management in a large, well-organized, consumer-products company today? It is interesting to note that *General Foods*, which has recently revamped its packaging set-up for greater efficiency throughout its several product divisions, now counts 238 jobs which are solely or partially concerned with packaging functions—exclusive of packaging-line personnel.

Meat by mail order is the latest move by meat packers to obtain the benefit of packaged, branded meats under their own trademarks. Wilson & Co. is joining Montgomery Ward in a special [Continued on page 42]

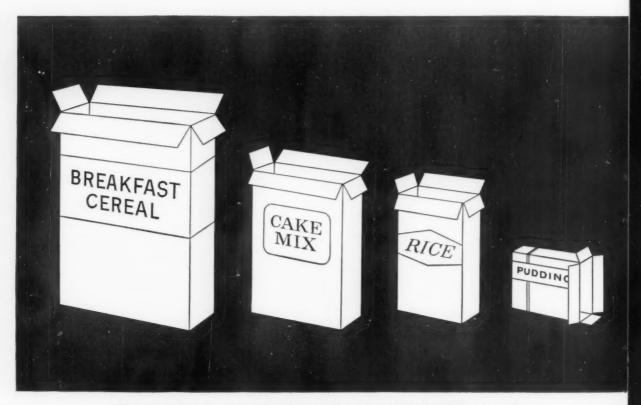
Notes, quotes and

comments. An

editorial feature

FOR THE FIRST TIME - A HIGH YIELD COATED BLEACHED BOARD

announcing



Most printed packages produced currently on lowest grade printing boards can now be upgraded to coated, 100% virgin fibre bleached board. HiYield Printkote is white on both sides and all the way through, and is produced in volume to a standard quality.

RECOMMENDED FOR PRINTING!

HIVIELD

Now, with no increase in cost, many printed packages, even those made from the lowest grades of printing boards, can be upgraded to bright cartons—all white inside and out—made from 100% virgin bleached fibre. Just use West Virginia's HiYield Printkote.

As its name implies, a ton of HiYield Printkote contains more square feet per ton than higher density boards and, therefore, yields more cartons per ton. Due to its high yield and strength, cartons manufactured from HiYield Printkote are comparable in cost to many cartons made from much lower printing grades of non-virgin fibre boards; however, there is no comparison in appearance and uniformity.

HiYield Printkote is another member of the family of fine Brite-Pak bleached boards. It is the economical bleached board that will prove superior in many packaging applications where cost is a major consideration and printability a factor. However, for the best bleached board, always look to West Virginia's companion grade, Brite-Pak Enamel Coat, which users say is the finest coated bleached board in its field on the market.

For detailed information on HiYield Printkote, or the accepted bleached board leader—Brite-Pak Enamel Coat—write to Bleached Board Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N. Y.



service by which consumers may order frozen meats, poultry and prepared meals from a special Ward's food catalog. Orders from any point in the U. S. are shipped, in minimum quantities of 25 lbs., by Railway Express in sealed, moistureproof containers packed in dry ice, on a "satisfaction-guaranteed" basis. Other packers are watching this closely.

Side effect of new *Food Additives Law* is an incentive toward relabeling of many food lines. Elimination of unapproved additives in products themselves has necessitated a change in the list of ingredients on the label and many companies are taking this occasion to restudy their entire line and improve labels for better eye appeal and legibility. Both captive and independent package designers are reported flooded with this type of modernization program.

Wave of label redesign is also hitting the textile-products field in wake of the new Textile Fibers Products Identification Act, which became effective March 3 (see p. 177). The law requires that a label, stamp or tag be attached to all textile products, identifying the fibre content generically and by percentages, the manufacturer and the country of origin. While making these changes in mandatory copy, many manufacturers are also revising and modernizing their label designs.

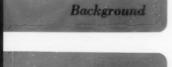
Castro in Cuba builds a barrier against packaged-in-America goods. A new law effective in May requires that all pharmaceutical products sold in Cuba must be packaged or repackaged in Cuba. Companies with packaging plants in Cuba will be relatively safe, as the law apparently does not bar the importation of finished or semi-finished goods. Others must either find Cuban packaging facilities or give up this market. There is speculation among manufacturers that the same regulation may be applied in the future to other consumer-product fields.

Tinplate interests are working hard against the growing threat of aluminum cans. Roger M. Blough, chairman of U. S. Steel, made canners sit up and take notice at their recent convention in Miami Beach when he dropped a hint that "we are working on a new tinplate which, if it proves to be as promising as now appears, will be lighter, thinner and stronger than any tinplate you have ever used."

Interesting question raised by U. S. food packagers who are beset with problems under the new Food Additives Amendment: What about imported foods? Will they be governed by the same rules as to known safety of packaging-materials ingredients? And how can they be policed? F&DA says the same rules apply, but admits that no enforcement program has been developed as yet specifically for imported goods and doubts that there will be any sudden crackdown. Presumably, the U. S. importers and distributors would be liable under the law.

Newark decision on Delson Candy Co. (MP, March, p. 301) has scuttled, at least temporarily, new F&DA campaign against "deceptive" packaging. F&DA lawyers thought they had an excellent test case in Delson package for candy mints, which used four hollow dividers in an overwrapped tray. But Federal district judge in effect threw the case out of court, holding that the purchaser had no reason to expect any certain number of mints. The weight, he pointed out, was correctly stated on the wrapper. Government appeal is unlikely, since the decision was based on judge's estimate of the facts and no point of law was involved.

Think of this when you think of the market for packaged goods: Last year, for the first time, personal income paid to Americans averaged more than \$1 billion a day. The average family income, at \$6,679 a year, was half again as much as the average in 1950—although there are 29 million more people today than there were at that time.



Packaging

[Continued from page 39]

reshness is fragile-

print-a-tube poly/foil preserves... protects...

Guaranteed for two years of shelf life, Wash 'n Dri, the miracle moist towelette, is ever ready for use . . . sealed in Print-A-Tube Poly/Foil. The mildly fragrant cleaner is ever fresh, the towelette is ever moist, ready for instant cleaning without soap, water or towel. Whether it be food products, toiletries, drugs . . . protect the fragility of freshness with Print-A-Tube Poly/Foil. Write for information; send samples of products for test packaging.

Free 32-page Packaging Machinery Manual upon request.

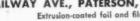
COMPANY =

DIVISION OF LASSITER CORP.

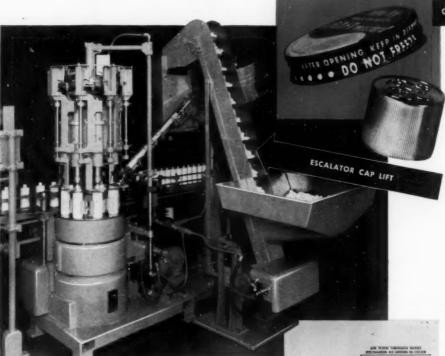
143 E. RAILWAY AVE., PATERSON, N. J.

Extrusion-coated foil and films for automated packaging of liquids, solids and powders.

P.O.M. (Poly-on-Mylar), POLY/CELLOPHANE, CELLO-POLY-CELLO, P.O.M.V. (Poly-on-Mylar Vacuumized), POLY/POUCH, POLY/FOIL, etc.



MOST ADVANCED CAPPING METHOD of this day and age



CAP ADAPTABILITY UNLIMITED

All types of turn-on closures, can be handled by the firm, yet gentle action of the unique air chuck.

Supplementary aid does away with awkward task of dumping cap cases into hopper 6' above floor,

MONEY SAVING

PNEUMACAP rotary capping machines include 2, 4, 6, and 8 head models. All feature the advanced design Pneumacap Air Chuck and Sterling Cap Feeders. When you add the Escalator Cap Lift you're as close to money saving automation as you can get today.

The air chuck alone is a major engineering triumph. It employs air pressure to squeeze a Neoprene ring so as to radially grip the cap. Feather weight design eliminates excessive mass, resulting in maximum sensitivity of torque control. Its adaptability is matched by its escalator lift and cap feeder team mates.

The PNEUMACAP is strong on container control, too—leaving nothing to chance. Get the complete details—write for the 8 page Capping Bulletin #146.

PNEUMATIC SCALE CORPORATION, LTD., 82 Newport Avenue, Quincy 71, Mass. Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company at Los Angeles, San Francisco and Seattle. Rockwell Pneumatic Scale Ltd., Edgware Road, London, N. W. 2, England, O. R. M. A., Paris 8, France. Carbert Manufacturing Co., Division, Cambridge, Mass., Delamere & Williams Co., Ltd., Toronto.



Packaging and Bottling Equipment

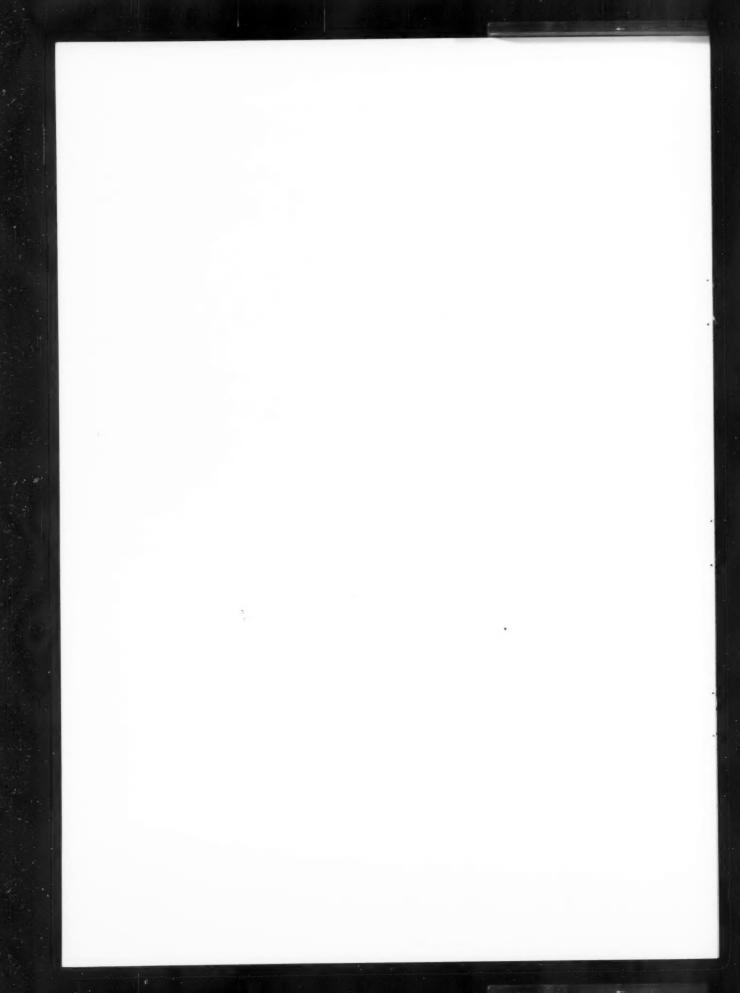
Applies metal, knurled, smooth, single or double shell caps and is especially well suited for handling the fragile molded types.

AIR CHUCK FLEXIBILITY

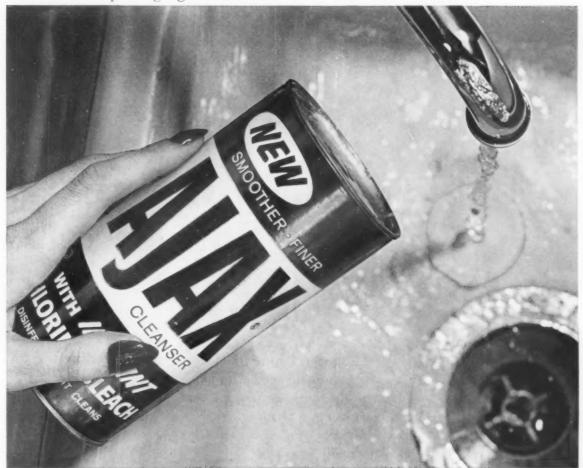
Receives caps in bulk quantities, sorts and feeds them in orderly array for "pick off" by rotating arms of capper. Models available to handle caps up to 89 mm.



THE HOUSE OF HARLEY



Another Foil packaging success with Anaconda Aluminum . . .



ANACONDA ALUMINUM FOIL helps keep Ajax Cleanser dry, fast-flowing...fast-selling

Ajax Cleanser lives near water—works in water—gets carried by wet hands. So, the Colgate-Palmolive Co., New York, insists upon protective packaging for this fine-textured product that must be dry and free flowing.

Lustour Corporation, St. Louis, prints the moisture-proof label, a lamination of aluminum foil and kraft paper. This label, which becomes an integral part of the canister, both keeps out moisture and stands up under wet handling.

This colorful foil wrapper does another big job, too. It sells hard in supermarkets because the reflective aluminum foil brilliantly displays the famous Ajax name.

To find out what hard-working foil packaging can do for your product, call your nearby Anaconda Aluminum representative. And for details about all our products and facilities, send for our new booklet, "This is Anaconda Aluminum". Write Dept. ML-4, Louisville 1, Kentucky.

When you buy foil for packaging or printing, remember... every industry has one member who specializes in customer satisfaction



ANACONDA ALUMINUM COMPANY . GENERAL OFFICES, LOUISVILLE, KENTUCKY

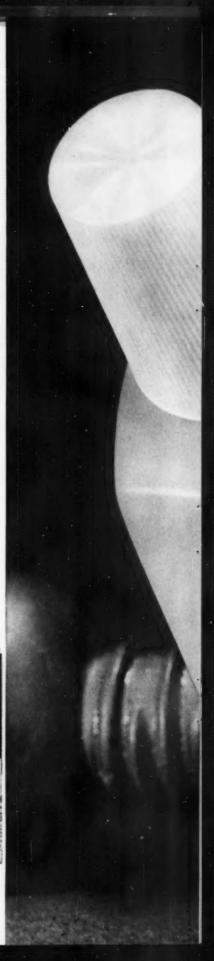
MORE IN THE PACKAGE THAN MEETS THE EYE

Murine sales have been increasing faster than ever since the introduction of this light, functional plastic squeeze bottle by Plax. * Today's tough competition demands dramatic, consumer-oriented packaging. * Safe in the home, soft to the touch, unbreakable and attractive Plax packages now carry the names of many leading cosmetics, pharmaceuticals and household chemicals. * To meet increasing demand for plastic containers, Plax is rapidly expanding the largest facilities in the industry. This capacity—plus 25 years of experience in plastics—makes Plax the leader in its field. * Today's low-cost plastic packaging can increase your sales . . . and your profits. * * * When you switch to plastic, may we discuss the change with you? Plax Corporation, Hartford, Conn. * In Conada, Plax Canada, Ltd., Toronto

PACKAGE DESIGNS BY MAX ROGERS, EGMONT ARENS, ROBERT SIDNEY DICKENS, INC., DONALD DESKEY ASSOCIATES AND PLAX CORPORATION



YOU'RE IN GOOD COMPANY WHEN YOU USE PLAX CONTAINERS









PLAX
GIVES A PACKAGE
A PLUS

Equipment & Materials

High-density-polyethylene coating compound

From Union Carbide Plastics comes a new high-density-polyethylene extrusion-coating compound which is claimed to cut by half the coating weights required to give paper excellent impermeability to moisture, grease and oils. The material, which has obvious use potentials in paper packaging, is designated DGDD-7401 Natural. It reportedly can be extruded onto paper at good commercial speeds in coating weights as low as 6 lbs. per ream. One packager is already using the coating material on multiwall shipping bags for fertilizers and other products which must retain the properties of dryness and free-flowability. The supplier estimates that because less polyethylene is needed, use of the new coating compound can save packagers up to \$14.50 per thousand bags, depending on bag construction. In a test conducted by the supplier (360 hours at 100 deg. F. and 90% relative humidity), high-density (0.950) polyethylenecoated kraft-paper multiwall bags filled with calcium chloride averaged far less moisture pickup than did multiwall bags with heavier coatings of low-density (0.917) polyethylene. In addition to its high moisture barrier and chemical-resistance properties, the new coating is said to give multiwall bags superior scuff and abrasion resistance, improved slip properties and higher heat resistance. Union Carbide Corp., Union Carbide Plastics Co. Div., 30 E. 42 St., New York 17.

Integrated automatic casing line

Shipping cases are automatically opened, erected, loaded and sealed at speeds up to 25 per minute on the new Model 41 casing machine, reports FMC. Operating on pneumatic



accumulating and loading principles, the unit can accommodate for casing almost any type of rigid or semi-rigid product container, the supplier says. Feeding is from a vertical stack of up to 200 flat cases. Positive vacuum cups strip off the bottom case. Packages to be cased are positioned, accumulated by rows, elevated to any tier pattern, then end or side loaded—all in automatic operation. An enclosed, pressurized glue system with a "no-case, no-glue" control provides greater uniformity of glue application and cuts maintenance and clean-up time, the company claims. FMC Packaging Machinery Div., Stokes & Smith Plant, 4942 Summerdale Ave., Philadelphia 24, or Canning Machinery Div., San Jose, Calif.

10-station rotary piston filler

Speed and accuracy are combined in the Model RP-210 10station rotary piston filler, reports its manufacturer, The Pfaudler Co. According to the company, the new filling machine operates at speeds up to 300 containers per minute, with accuracy within ½0 fluid oz. The unit can accommodate a variety of containers, including cans, bottles or paper containers. It can be adjusted through a 200 to 700 height range. A rigid cam track controls height of fill and assures maximum accuracy, says the company. The fill adjustment is located directly above the conveyor, for convenient ad-



justment during the operating cycle. The new filler can accommodate products ranging in consistency from semi-viscous (such as evaporated milk) to semi-solid (such as potted meat). Filling cylinders are offered in three standard sizes, for filling one to eight oz., four to 16 oz., and eight to 38 oz. A special cylinder, for filling up to 46 oz. of product, also is available. Details are offered by The Pfaudler Co., 1107 West Ave., Rochester, N.Y.

Now, scented polyethylene for packaging

Highly scented polyethylene pellets, designed to add salesstimulating aromas to film and injection-molded packaging materials, are now available from Fragrance Process Co. Various scents have been developed for these applications. They include perfume aromas, for use in packages for women's soft goods, and spruce and pine, for men's sportswear packaging. According to the supplier, a wide range of food aromas also is being considered, pending approval by the Food & Drug Administration. The scented polyethylene pellets are made by blending the aroma concentrate into a carrier resin (Allied Chemical's Polyethylene 6 is being used as the carrier). The scented pellets then are blended-in concentrates up to 5%-with a film-grade resin for extrusion. At present, it is reported, scented polyethylene film is being produced in this manner by Texas Plastics, Inc., Elsa Tex., using U. S. Industrial Chemicals' Petrothene film-grade resin. According to Fragrance Process, the aroma become an integral part of the finished polyethylene package; it cannot be washed away or otherwise lose its effectiveness during normal container life. Price of the scented polyethylene pellets ranges from \$1.50 to \$5 per pound, depending on the scent desired. Fragrance Process Co., 667 Madison Ave., New York 21.

Packaging machinery offered for leasing

The complete line of Packomatic automatic packaging machinery can now be leased for terms of two, three or five years. The announcement has been made by the manufacturer of the machinery line, J. L. Ferguson Co., and its leasing agent, Nationwide Leasing Co. Both regular machines and custom installations are available under the leasing plan. Among the equipment offered are shipping-case openers, loaders and glue sealers; case imprinters; bale or bag sealers; carton formers, fillers and sealers, and

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But how do you measure experience and ingenuity . . . which are extra qualities built into every Gaylord box?

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Your nearby Gaylord Man can prove this. Why not let him try?



Seal illustrated above used for shipping containers conforming to Uniform Freight Classification No. 41.



CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION



IN CANADA - CROWN ZELLERBACH CANADA, LTD. VANCOUVER, B. C.

HEADQUARTERS, ST. LOUIS

Equipment & Materials [Continued]

fibre-can makers, fillers and sealers. There is no limit to the amount of machinery that can be leased by a packager company, says the leasing agent. Nationwide Leasing Co., 11 S. LaSalle St., Chicago 3.

New plastics-handling equipment

Among the new equipment offered by Schjeldahl are an improved model of the company's Split-Roll polyethylene bagmaking machine, a polystyrene-sealing machine and a continuous-motion perforator. Called the Model S20T, the bag-making unit is reported to offer greater accuracy and higher speed in draw length and print registration. A new flying-knife attachment alternately turns out bottom-seal and side-weld film bags. Another new attachment for the machine is an automatic jog-index stacker which counts bags in multiples of 10, 25 or 50 and offsets them for easy counting. The company's new polystyrene-sealing unit is reported to make shock- and crack-resistant seals. G. T. Schjeldahl Co., Northfield, Minn.

Set-up machines for large or small cartons

Thiele Packaging Machinery has developed a series of three new carton set-up machines. Designed for a wide variety of product applications, the new units offer automatic set-up of



cartons ranging in size from 1 by \%16 by 5 in, to 12 by 8 by 20 in. The continuous-motion machines feature 180-deg, reversing of the carton and ironing of score lines to provide a carton fully squared before gluing, says the supplier. Carton-bottom flaps are folded square and flat after gluing. Set-up cartons reportedly can be conveyed immediately to filling or loading machines. Among the cited features of the machine are high-speed, simple operation, ease of clean-up, a self-contained vacuum system, totally enclosed motors and a water-tight wiring everem. Thiele Packaging Machinery Co., 1000 Berry Ave., Paul 14.

Tough new film resin for bulk bags

Now available from Phillips Chemical for flexible-packaging applications is a tough new "tailored-plastic" resin which reportedly will produce a film whose burst strength is superior to conventional polyethylene or kraft multiwall bags. Dubbed Marlex TR-101, the resin is a blend of linear polyethylene and elastomeric compounds that add toughness and strength properties. According to test results from the supplier, 7-mil bags made from the new film have a burst strength 2½ times that of conventional 10-mil poly-ethylene bags. They also are reported to have 38% more tensile strength and to have 25% better moisture-barrier properties. In addition, says the company, a 50-lb. bag made of the 7-mil film costs two cents less than a conventional 10-mil polyethylene bag. Weight savings realized from the thinner film also contribute to packaging economies, the supplier points out. The film's superior tensile strength is claimed to eliminate the incidence of punctures caused by workmen gripping bags with their fingers. Good printability is another characteristic cited for the film. which is suggested for use in the bulk-bag packaging of dry products. Phillips Chemical Co., Bartlesville, Okla.

Miniature tag and label press

Described as one of the world's smallest compact rotary presses is Jackmeyer Corp.'s new Jackmite tag and label

press. The unit not only prints the basic label but also imprints it with any desired information. It accommodates labels and tags ranging in size from % by 1 in. to 6½ by 6½ in. It reportedly can be used on any stand-



ard material, including cloth, paper, tag stock and pressuresensitive labels. The unit can be operated manually or electrically; it is available in a variety of models and sizes. The Jackmeyer Corp., 253 W. 26 St., New York 1.

Packaging machinery from Germany

Fr. Hesser Maschinenfabrik reports that it will exhibit a variety of new machinery at Interpack, the International Packaging Exhibition, which will be held in Düsseldorf, Germany, April 20-27. Fully automatic packaging machines with new attachments, including units for making flexible vacuum packages, will be among the equipment displayed. Also new are high-spc. Wrapping machines for such products as chocolate bars and razor blades, as well as machinery for handling polyethylene film. Other automatic machinery to be shown include filling and closing units which are reported to run at very high speeds, accommodating set-up boxes and bags. For hand-filling operations, the supplier will demonstrate a line of weighers and fillers. Fr. Hesser Maschinenfabrik A.G., Nauheimer Strasse 99, Stuttgart-Bad Cannstatt, Germany.

Roll-leaf stamping press

Peerless Roll Leaf has introduced a bench model air-operated stamping press for hot stamping on paper, fibre, plastics and various other materials. Known as the Model A.B.P., it can be operated with either foot control or hand control. The new unit operates at adjustable speeds up to 40 impressions per minute, says its supplier. An automatic heat control assures uniform temperature. The new machine is adjustable, feeding up to 5 in. of leaf 4½ in. wide. Feed is side to side, Peerless Roll Leaf Co., Union City, N.J.

Semi-automatic cottoning machine

The new Triumph semi-automatic cottoning machine, offered to tablet packagers by Burnet, is reported to be capable

of operating at speeds up to 35 bottles per minute. Cotton length dispensed by the machine ranges from 3 in. to 12 in. and can be adjusted to bottles of varying size. Change-over from one size of bottle to another is reported to take



less than one minute. A microswitch activates a single cycle when the bottle is held in position for cottoning, as in the accompanying illustration. The new machine is suggested for use in medium-speed packaging operations. The Burnet Co., Production Equipment Div., Paramus, N.J.

Reduced polystyrene-sheet prices

Plax Corp. has reduced by an average of about 12% the price of Polyflex 100 biaxially oriented polystyrene sheet. The lower prices apply to general-purpose and forming [Continued on page 152]

Packaging Notes

A new polyethylene pouch-in-carton has been adopted by a west coast food concern for packaging frozen fruits in syrup. According to company officials the new container saves 35% over previous packaging costs for lithographed com-

posite fiber-metal containers.

The package consists of a 2.75-mil heat-sealed polyethylene pouch inside a standard lock-tab folding carton with overwrap. The firm reportedly uses a continuous pouch forming-filling-sealing machine which turns out 3,000 pouches

Retailers are said to like the conven-tional size and shape of the overwrapped packages. Consumers like the fast, leak-proof thawing and ease of opening offered by the new frozen food container. Thawing time for the pouch pack is said to be only 9½ min. in 100°F. water, as compared with 45 min. for conventional fiber containers.

Now, scented polyethylene for packaging, molded items: a new dimension—aroma—has been added to polyethylene packaging films and molded items. Crystal-clear polyethylene films now can be made to create packages that pleasantly affect the senses of both sight and smell. This added sensory dimension is expected to stimulate sales still further for items

packaged in polyethylene.

A wide variety of scents have already been developed, including such aromas as "clean linen" for fresh laundry pack-ages, perfume for packaging women's lingerie, sweaters, handkerchiefs, and stockings, and lavender, tweed, cedar, pine, and spruce for men's sport clothing packages. Other aromas such as "cookie" baked goods", spearmint, chocolate, lemon, orange, and lime will be offered by the manufacturer in the future, pending F.D.A. approval.

The fragrances are sold in the form of polyethylene/scent concentrates, which are dry blended with U.S.I. PETRO-THENE film grade resin in making scented film. Between ¼ and 2% of scented polyethylene concentrate is used, depending on the scent. The manufacturer of the scent concentrates claims to be able to scent resins of any density or melt index required by the extruder, and that all aromas become an integral part of the polyethylene film-they cannot be washed away.

U.S.I. Opens Polyethylene Housewares Exhibit

An educational exhibit, designed to show retailers and manufacturers how quality polyethylene housewares are made was recently opened by U.S.I. The exhibit is located in the Housewares Building, 1150 Broadway or 230 Fifth Ave., New

York City.

Occupying a space in the building's main lobby, the exhibit tells the story of polyethylene from manufacture of quality resin to production of quality goods through modern molding techniques. The display includes photos of plant facilities and samples of fine and the dependent of the production of the plant facilities and samples of fine and the dependent of the production of the plant facilities are stricted. molded houseware articles.

U.S.I. Introduces "MICROTHENE" Finely Divided Polyethylene

Resin in Powder Form Expected to Expand Use of Polyethylene in Textile, Metal and Many Other Fields

Polyethylene in finely divided or powdered form is now being produced by U.S.I. and is available in sample and semi-commercial quantities under the tradename "MICROTHENE". Already in use in Europe, finely divided

polyethylene is expected to open many new markets for the resin in this country and to expand a number of existing ones. Some of the applications foreseen include its use in the coating of metal, tex-tile, paper, glass and wood products, as a binder for non-woven fabrics, and as molding powder for production of large polyethylene items such as boats, tanks, and shipping drums.

Methods of Application

In coating operations, MICROTHENE polyethylene can be applied to the substrate in its original powder form, as an organic or aqueous dispersion, or as an organic or aqueous paste. The method selected depends largely on the substrate to be coated, the major requirement being that the substrate be able to withstand the heat necessary to fuse the resin into a continuous coating. In the coating of woven and non-woven fabrics, dry polyethylene powder or a paste is generally spread evenly onto a moving



Two methods for coating metal with MICROTHENE finely divided polyethylene are shown above. Hot object is dipped in fluidized bed of powdered resin, left. Resin dispersed in organic liquid is applied by ordinary spray equipment, right.

U.S.I. Announces Booklet On Polyethylene Printing

"Printing of Polyethylene" is the title of a new U.S.I. booklet just off the press. It's the latest addition to special U.S.I. literature designed to help achieve finest results with polyethylene packaging film.

The new booklet discusses methods of film treatment, printing techniques, printing inks, and field test procedures. It also contains a glossary of commonly-

used ink and printing terms.

A copy of this valuable 16-page book let is available upon request. Just write to U. S. Industrial Chemicals Co., 99 Park Ave., New York 16, New York.

web, which then passes through an oven sinter the plastic into a film coating. Metal parts can be coated by spraying, dipping, or slush coating with either the dry powder or dispersions. Organic dispersions are generally used on metals that would be corroded by water. With modifications of application techniques, strippable polyethylene metal coatings may be possible.

Fluidized Bed Technique

Irregularly shaped objects, wire, and other metal items can also be coated with inexpensive equipment employing the fluidized bed technique. The item is first preheated, dipped into a container with the fluidized dry powder, and then cooled or post-heated to achieve a smooth, continuous coating.

Plastic Moldings

Another potential market for MICRO-THENE finely divided polyethylene is in the field of large plastic moldings. The powder is poured into heated molds which shape the polyethylene as it melts on the surface of the mold. Excess powder is then poured out. The molds required are extremely simple and inex-pensive. Large containers, drums, and even small boats have been made successfully by this technique in Europe.

Two MICROTHENE Resin Types

Available
U.S.I. is initially marketing two types of MICROTHENE polyethylene. One type will be similar to PETROTHENE 202 resin (melt index 22, density 0.916); the other type will be similar to PETROTHENE 206 resin (melt index 5, density 0.916); sity 0.924). As new market requirements develop, other types of resins will be made available in finely divided form by U.S.I.

Each of the above resins is available in two forms: fine (smaller than 200 mesh) which is made by a solution process; and coarse (50 to 100 mesh) which is made by a mechanical grinding method. Both types of powder will have their own fields of application.

Production Facilities

U.S.I. is now producing MICROTHENE polyethylene at Tuscola, Illinois, site of one of U.S.I.'s two polyethylene plants. The plant, which went on stream in March, has an initial capacity of 2 mil-lion pounds per year and is designed for fairly rapid expansion.

Samples of MICROTHENE finely divided polyethylene, and a Technical Data Sheet giving detailed product information may be obtained by writing U. S. Industrial Chemicals Co.



WHICH POLYETHYLENE FILM IS BEST . . . FOR YOUR JOB?

New Commercial Standard Helps You Find the Right Film Properties For Your Own Packaging Application

Versatile polyethylene film has a wide range of useful properties with many variations: You can get ultraclear film...unusually strong film...film with a variety of sealing, printing and packaging characteristics.

To help you find and specify the combination of film properties best suited to your own packaging problem, a new Commercial Standard has been developed by the plastics industry and issued by the U. S. Department of Commerce.

Commercial Standard CS 227-59 covers dimensional tolerances for thickness, width and length; quality requirements such as appearance, impact resistance, tensile strength, slip, clarity, ink adhesion, heat sealability and odor; and food and drug packaging requirements. The film buyer now has available to him defined properties for selecting film.

The tolerances specified in this Commercial Standard are necessarily wide, and they are not intended to define the highest quality possible. You can frequently obtain closer tolerances in dimensions and better than minimum properties, when you need higher quality film, by working out your requirements with your supplier.

As a manufacturer of quality PETROTHENE® polyethylene resins, U.S.I. will be glad to work with both you and your supplier to help you use the new standard to your best advantage.

FREE-In a new data sheet, U.S.I. has interpreted the Commercial Standard CS 227-59 for polyethylene film in terms most helpful to film packagers. The four-page brochure covers specifications for all flexible film applications. Send for your free copy. Write us at the address below.

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THIS IS DYNA-FOAM

DYNA-FOAM is an extruded low-density, expanded polystyrene foam. Its low density gives it features never before available in any packaging material. Here are some of DYNA-FOAM'S more important properties:

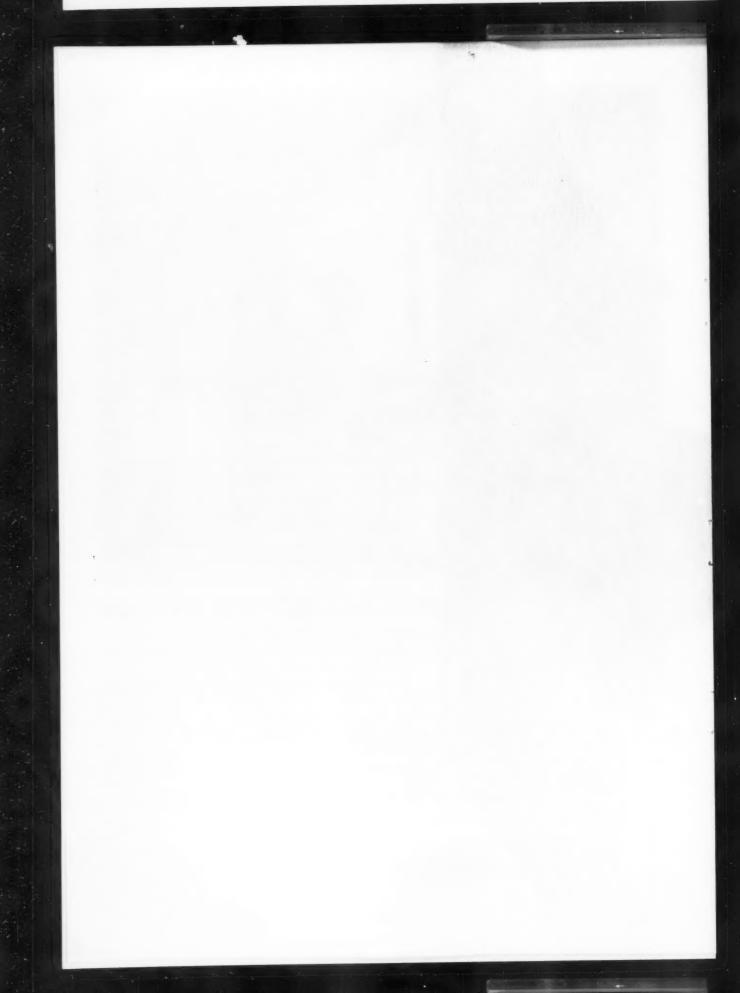
- Low cost! 1000 square inches, .010 inches thick, for approximately 7 cents.
- Excellent insulator (low K factor even in thin sections).
- · Excellent shock absorber.
- · Completely waterproof.
- Printer's dream. Takes flexographic and silk screen inks without treating. Try writing on the back of this sheet with a ball point pen.
- Easily fabricated by thermo-forming, die-cutting, and heat sealing.
- · Excellent laminating characteristics.
- Light weight, 4-10 pounds per cubic foot.
 DYNA-FOAM is available as film, sheet, lay-flat tubing,

DYNA-FOAM is available as film, sheet, lay-flat tubing, pipe, rod, and any special shape.

See us at Atlantic City and get the complete DYNA-FOAM story!

DYNA-FOAM CORPORATION Ellenville, New York

FIRST in extruded plastic foam





No. 19A Colton-Hope High-Speed Autometic. Fills liquids, creams, pastes into bottles, jars, cans. ½ oz. to 32 oz. per nozzle; 4 to 14 nozzles. Up to 250 fills per min. Many accessories available.



Ne. 19 Colton-Hope High-Speed Automatic. Fills liquids, creams, pastes into bottles, cans, jars. Excellent for filling, top-finishing, disc-placing in cosmetic cream work, 40 cz. to 32 cz. per nozzle; 4 to 8 nozzles, Up to 160 fills per min. Widely adaptable through many accessories.

The money-saving



No. 15RF2 Colton-Hope Two-Line High-Speed Automotic. Fills liquids, creams, pastes into glass, plastic, in, paper containers. ¼ oz. to 32 oz. per nozzle; I or 2 nozzles available. Many outstanding features. Up to 60 fills per min. Many accessories available.

No. 27 Colton-Hope Heavy-Duty Automotic. Fills high viscosity and ropy materials such as caulking and greaves into tubes or cartridges. Sizes up to 2" x 10"; 2 to 6 nozzles. Up to 90 fills per min.

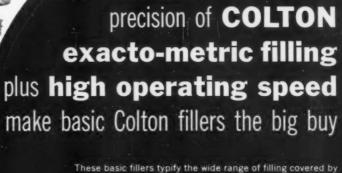


No. 21 Colton-Hope Single and Twin Automatic Conveyorized Heavy-Duty Filling Machine. For filling headways, creams, fight and heavy pastes such as paints and samilar products into area and cans. Production up to 10 cycles per minute per nozzle. Fills up to 1 gallon per nozzle. I and 2 nozzles available. Paint can bid dropping and pressing leatures available pressing leatures available.



No. 175 Colton Automatic Tube Filler, Closer and Crimper with Ejector.* Fills Iquids, creams, pastes into tubes, small bottles, jars, cans. Cleans, fills, folds, crimps, ejects. Various fillers offer 30 to 300 tubes per min. per machine.

*No. 176 Plastic Tube Sealing Attachment; low cost conversion unit to replace standard folding heads on Models 171F and 1751F machines. Gives dual-purpose machine handling metal or plastic tubes. Model 172 Cotton excusively for high speed sealing of lastic tubes.



the Colton line—most complete and versatile in the world. Such basic machines, readily adaptable to individual application by means of accessories engineered to the machine, give, in effect, a custom-engineered machine at standard machine price. It is this adaptability that enables us to say "Colton fills practically ANYTHING into ANYTHING."

Many other Colton fillers available. Write for Filling Machine Application Data Sheet. Detailed specification sheets available.

Arthur Colton Company, 3400 E. Lafayette Ave., Detroit 7, Michigan. Sales and Service offices throughout the country.

Plants: Detroit, Mancelona, Elk Rapids, Michigan.



Series 100 Colton High-Speed Multiple Liquid Fillers, (for Fills liquids into jars, bottles, cans. Up to 4 fl. oz. per nozzle; 4 to 12 nozzles. Up to 4 80 fills per min. Can be manifolded for larger fills. Extreme accuracy, high production in a low-cost machine.



COLTON fills practically ANYTHING into ANYTHING















CARTON COATINGS OFFER 7-WAY PROTECTION

- No more fiber scratch
- · Improved scuff resistance
- · Higher chemical resistance
- · High grease resistance
- · Better gloss
- Moisture resistance
- Reduced rub-off



If grease, moisture or fine finishes present packaging problems for your product, here's how you can pack and ship them safely without recourse to costly carton liners:

Incorporate A-C Polyethylene into your present carton-coating operation! It will eliminate fiber scratch and scuffing, give your cartons adequate resistance to grease, water and chemicals.

A-C Polyethylene can save you money, too. When you add it to ordinary wax coatings, penetration is drastically reduced, resulting in less wax consumption. For example, with straight paraffin, the normal coating weight is 7-8 lbs./1000 sq. ft. With addition of A-C Polyethylene, it is frequently reduced to 3-5 lbs./1000 sq. ft. with superior protection!

Write for literature, free samples. Free samples and technical data are now ready for your evaluation. Just write us at the address below. Or ask your local Semet-Solvay representative for a demonstration in your own plant. He can show you, right on your own equipment, how A-C Polyethylene can improve your cartons, save you money at the same time! Contact us for the names of processors in your area who make up blends of A-C Polyethylene and wax.

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Product Planned

ABOUT The Charts, Tables and Diagrams in Your 1960 MODERN PACKAGING ENCY-CLOPEDIA Issue

Whenever possible, the factual, working information that makes up your new Modern Packaging Encyclopedia is assembled in a chart, table or diagram. In your 1960 issue, you'll find over 70 of these "showcases," putting highly useful information on display and making accurate comparisons easy.

Among this year's five large fold-out charts are two that are new. One is a list of contract packagers, classified geographically. The other, "Check Points for Package Planning," is a complete blue-print of all the steps necessary in developing a successful package.

An outstanding example of usefulness is the "Cost Table on Papers, Films and Foils." This valuable compilation is among the many which could not be duplicated except at prohibitive cost.

Use the charts, tables and diagrams in your Modern Packaging Encyclopedia as guides to sharper efficiency, improved packages and new sources of profit. The essential information is yours at a glance!

Here are a few typical titles of charts, tables and diagrams you'll find indexed on page 6:

CHARTS

Standard Tests for Packaging Materials Containers - Production, Dollar-Value, End-Uses, etc. Heat Sealing Character-

TABLES

istics of Materials

Annual Gift Market
Characteristics
of Molded Plastics
Acceptable Ingredients
for Food Packaging

DIAGRAMS

Sheet Forming Techniques
Equipment for Coating,
Laminating, Slitting,
and Sheeting
Label Application
Methods



Vacuum formed package by Shaw-Randall Co., Inc., Pawtucket, R. I.

"BLISTER PACKS OF CELANESE ACETATE SELL PENCILS BY THE DOZEN'' says Mr. Don Richards, General Sales Manager, Eagle Pencil Company, Danbury, Conn.

"Store managers like these blister packs," says Mr. Richards, "because the products are clearly visible. The packs lie flat in counter bins or hang neatly on racks. They hold contents securely, keep them clean, and cut down on pilferage. Blister packs not only increase the unit of sale, they sell our products like hotcakes."

The production angle is important, too. Celanese Acetate sheeting is economical, and thermoforming it into blister packs is an economical process. And fast! Some automatic packaging lines are turning out blister packs at the rate of

1000 per minute and more! Sparkling-clear acetate sheeting helped Eagle Pencil Company move strongly into the consumer market and sell a lot of pencils that never would have been bought from "standard" packings. Acetate might well do the same for you. Let's talk over the facts and figures. Or ask for literature. Celanese Plastics Company, a Division of Celanese Corporation of America, Dept. 208-D, 744 Broad Street, Newark 2, N. J.

Canadian Affiliate: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver, Export Sales: Amcel Co., Inc., and Pan Amcel Co., 180 Madison Avenue, New York 16.

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When leaders meet, the result is...

Tetracycline

PERFECTLY PLANNED PACKAGING



for many years a Lermer customer, is now marketing two new products in Lermer rigid plastic containers. Pressules of Sumycin® Drops in a handy, safe, compact vial. The other, an ophthalmic solution in a dropper bottle encased in a perfectly sized plastic container, the cap of which meets the dropper bulb and holds the bottle securely in position.

Lermer rigid plastic containers are shatterproof, economical, reusable, chemical resistant, lightweight. Crystal clear, transparent or opaque colors. May be printed up to four colors. Write for full color catalog.



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502 South Avenue

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Yes, here! A Milprint custom combination of two or more of these materials can give your product better protection and more sales appeal with economy of cost. Pioneer in flexible packaging, Milprint approaches your package problem with an open mind. There's no attempt to steer you toward any particular material or process because Milprint offers you the widest variety available anywhere.

Give your next package the advantages of unlimited choice of materials, printing processes and experience which is uniquely Milprint. Use our nationwide network of research, design and production facilities and you'll agree . . .



MILPRINT PACKAGING

MARKETING POWER

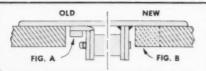
MILPRINT Inc.,
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Packaging Service,
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DIAMOND "projection welds" produce a permanent metal fusion as strong as the metal itself. Permits cleaner streamlined design.

Dura-Weld's case hardened bushed joints and deep sprocket engagement assure smooth chain op-eration under maximum power, load and speed

Dura-Weld is easily detachable at any joint. Dura-Weld links may be attached to existing roller chain of the same general type and may be used on the same rails.



DIAMOND Dura-Weld requires none of the attachments or rivets shown in Figure A. This permits a simplified design that is easier to keep clean, and gives up to 35% more rail load-bearing area. Permits use of wider supporting rails for greater distribution of load, Figure B.

continuously at maximum loads and speeds.

Dura-Weld gives you up to 35% more rail loadbearing area, permitting use of wider supporting rails. Because it has fewer parts to collect dirt it is easier to keep clean . . . and is less susceptible to shutdowns for repairs or maintenance.

Wherever flat top conveyors are used for intra-machine processing, bottling, capping, labeling, etc., you can cut costs and speed up production with new, streamlined, DIAMOND Dura-Weld Conveyor Chain. Write for full details, today!

Diamond Dura-Weld Conveyor Chain is now available from your Diamond Distributor's stock!

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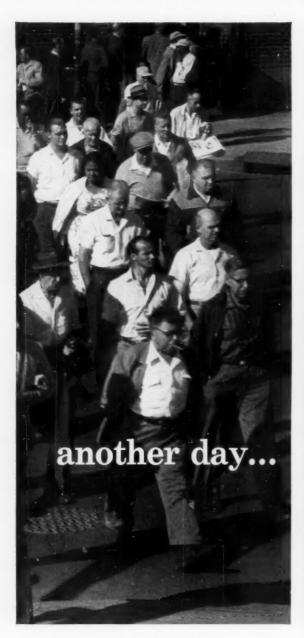
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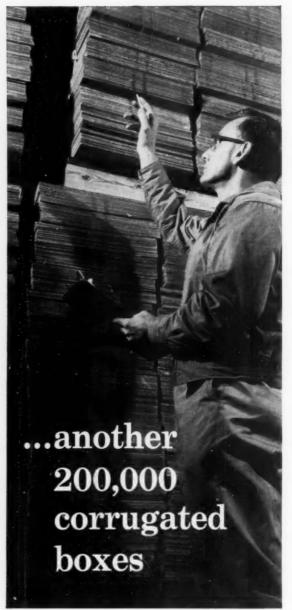
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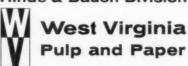
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Sounding Board

WE ASK THE READERS

Which packaging development of the '50s do you consider most significant? Which is most important to you? — Part I



Lyle Powell, Jr.
Packaging Coordinator
Jewel Tea Co., Inc.
Barrington, Ill.

The most significant advance in packaging the past 10 years has been the tremendous development and creativity of the plastics industry. A new medium has been created which can now take its place with glass, paper and metals as a prime material in the packaging field. Both flexible and rigid plastics have contributed immeasurably to protection, design, lowered costs, re-use and convenience factors of products to be marketed. By themselves, and in combination with the "standard" packaging materials, untold hundreds of packaging innovations have been possible. Packaging designers and engineers have had a new dimension added to their profession and they have done well by it, as today's packages will attest.

Perhaps some of the greatest benefits that plastics have brought to packaging users are indirect ones. Competition with plastics has spurred research and progress in the glass, paper and metals fields so that new developments thought to be impractical or impossible before are now in general use. New packaging machinery has been created to handle the improved materials economically and at high speeds, thereby saving the user time, money and labor. Printing processes, inks and dyes have been developed and improved to accommodate the newer materials and give a distinctive and fresh appearance to all packaging.

Looking back on packaging progress, we wonder at what has been accomplished. Looking ahead, we feel that as long as we keep our sights focused on what the housewife wants and needs, anything is possible.

J. H. Walsh, Merchandise Manager, The Lufkin Rule Co., Saginaw, Mich.: Pegboard, rather than the package, is in my opinion the most significant development in the past 10 years. Since the bulk of our consumer products are sold in hardware stores, this development, coupled with the necessary packaging changes, has made it possible for us to put our products out so the consumer can see them. Our increase in sales of these

items has been amazing. We credit a large part of this merchandising success to the pegboard packaging.



Alex M. Worth, Jr. President Shamrock Corp. Greensboro, N.C.

Aside from the many spectacular packaging developments of the past decade, one of the most significant developments has occurred within the industry itself: I refer to the unprecedented number of mergers or amalgamations. As president of a very small, successful company, I must state that this phenomenon causes us some uneasiness. Presently, we are not big enough to get swallowed up or perhaps even attract particular interest. Naturally, we want to grow, but I cannot help but wonder what the future holds if we do expand to the point where we would be more sharply brought to the attention of, and therefore of more importance to, some of the primary producers.

We recognize the invaluable contributions in newproduct development and expansion afforded by large, diversified packaging corporations, integrated from top to bottom. Nevertheless, I am firmly convinced that if the industry is to continue to flourish, it is equally important for prime suppliers to recognize that the service requirements of the consuming markets are most adequately fulfilled by the small, independent specialty converter of packaging materials.

This ingredient—service—which is the main justification for the existence of small converters, is too important to be neglected and apparently it gains no benefit from "bigness." We anticipate hopefully, during the next decade, a balancing trend which would give greater recognition to this fact. Toward this end, the contribution of the small converter would be considerably increased and the industry well served by the enactment of suggested legislation, permitting tax allowance for earnings plowed back into the business.

Because of the great interest in this question on significant packaging developments of the past decade, additional replies will be published in the next issue. Another leading product that now uses

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cartons are lithographed in four-color process,
plus gold and overprint varnish.



World Report

Abstracts from foreign packaging magazines

ENGLAND

Irradiation service for packaged goods

The first large-scale plant in England for the irradiation of packaged goods that went into operation a few months ago at Wantage Radiation Laboratories of the Atomic Energy Research Establishment is discussed in Packaging Review (England). Although irradiation facilities have previously been commercially available to industry on a relatively small scale, the article states that this is thought to be the only plant of its kind and size in the world. It is not thought that the Wantage plant will be used presently for the irradiation of foods, due to undesirable changes in taste and color, except perhaps for such purposes as extending the storage life of vegetables, such as potatoes or onions. Quite apart from foods, however, the article points out a large commercial field in which irradiation sterilization is likely to be of value. Many drugs, including antibiotics, it is stated, are incapable of sterilization by gamma irradiation which destroys unwanted bacteria without damage to the antibiotic. Surgical instruments, medical supplies, sutures and dressings may also be sterilized by irradiation. Grain can be irradiated for disinfestation; insects present have greatly reduced life span and are unable to produce progeny.

The new gamma-irradiation processing plant at Wantage reportedly will enable industrial firms interested in the commercial potentials of irradiated materials to carry out full-scale trial runs. The design of the plant is based on a unit package size of approximately 1 cu. ft., but the precise type of package to be used in each case will be the subject of negotiation between the radiation laboratory and potential users. Continuously operating conveyors will take the packages through the plant.

The plant occupies an area of approximately 10,000 sq. ft., including area for the storage of material both before and after processing. It will operate continuously 24 hrs. a day. The irradiation cell has been designed to house half a million curies of Cobalt 60, but will be loaded initially with 150,000 curies, providing a throughput of 7 megarad tons a day. In practical terms this means that up to 3 tons of medical supplies, for example, can be made sterile in a 24-hr. day. Outputs of other materials naturally will vary according to the radiation dose required.

RUSSIA

Soviet adopts tetrahedron milk containers

After intensive study of all the milk packages in the world, says *Emballages* (France), research engineers and technicians of the milk industry of the Soviet Union have decided that the disposable paper tetrahedron-shaped container (Tetra Pak) should be introduced in the USSR for the packaging of milk.

In consequence, the Organization for Soviet Government Purchases in Moscow reportedly has acquired Tetra Pak machines and by the end of next summer, Emballages goes on to say, the housewives of Moscow and Leningrad will buy their milk packaged in clean, disposable, lightweight and practical paperboard containers.

FRANCE

Concertina neck for easier pouring

Blown thin-walled polyethylene liners made in France for rectangular tins, large steel drums or corrugated and fibreboard cases equipped with concertina-like necks are described in *Packaging News* (England). The bellows necks are made with thickened aperture threaded to take a molded polyethylene screw cap. This construction permits the large pouring aperture to stand proud of the container's top by as much as 6 in., the article states, for easy pouring, yet may be pressed down flush or even below the aperture in the container through which the liner protrudes, thereby offering space saving and convenience in shipping.

BELGIUM

Europlastica 60

Present and future potentials of plastic materials will be emphasized at the Plastics Industries Exhibition called Europlastica 60, to be held in Ghent, Belgium, June 18-26. According to Packaging (England), analysis of the plastics industry throughout the world reveals that no less than 26% of this industry's potential is situated in the European Common Market countries. Full details may be obtained from the Office Belge des Matieres Plastiques, Galerie du Centre, Bloc 3, rue des Fripiers, Brussels 1, Belgium.

SCANDINAVIA

Butter in polyethylene tubes and other trends

Squeezable tubes of polyethylene with screw caps are being used for the packaging of butter, which is now sold in this form in Scandinavia, according to description and illustration in Nodiska Forpuckningar (Sweden). Also noted in this publication: adoption of foil-laminated packets for moistened, perfumed paper facial fresh-ups in Sweden, similar to Wash-N-Dry in the United States; trend to more packaging of cheese, frozen poultry and sausages in saranblend films; amendment to food laws in Denmark permitting grocers to sell sliced cold cuts in flexible vacuum packages. (Previously sliced cold cuts were handled almost exclusively by delicatessen shops.)

ENGLAND

New kind of milk cartoner in UK

A British machinery manufacturer has developed a new milk-cartoning system which takes impregnated wetstrength paper from a roll, three-color prints it, forms it into square-section containers with pour-spout feature, fills and seals them in one fully automatic, continuous sequence. According to the description in Packaging (England), rated speed is 7,000 formed, filled and sealed cartons per hour, with reportedly even higher production capacity under development. Heart of the installation is a twin-turret body former. Use of a standard square cross-section for all sizes greatly simplifies the distribution and handling of containers of different volume, the article points out. Onethird, one-half and full pint as well as quart containers merely vary in height. And the system is also adaptable to metric volumes-litres and half litres. Sterilization of the milk is accomplished by ultra-violet lamps.

CANADA

Packaging output expected to top \$750 million

A \$48-million boost over last year brought Canadian packaging industry's output for 1959 to well over \$700 million, says Canadian Packaging (Canada). "It should exceed \$750 million this year," this publication estimates. The reported total for 1959 was \$729 million, including a larger segment of packaging at the retail level than was covered in

World Report [Continued]

Canadian Packaging's 1958 statistical report. The 1959 over-all boost of 7% was slightly higher than 1958's rise of 6.5% over the previous year-despite a general business recession. Main reason cited for the steady growth of the packaging industry: consumer spending at the retail level in 1959 was 7% up on the previous year and that's where the bulk of packages is used. Ten top package-using industries in Canada listed in order of dollar-volume consumption are: fruit and vegetable preparation; butter, cheese, condensed milk; brewing; miscellaneous food preparation; bread and other bakery products; meat packing; tobacco and tobacco products; distilling; carbonated beverages; soap, washing compounds, cleaning preparations.

WEST GERMANY

Accent on materials handling and shipping

Entire emphasis is placed on materials handling and improved shipping procedures in the January issue of Die Neue Verpackung (Germany). One article discusses extensively all types and constructions of in-plant conveying and transportation equipment to achieve continuous production flow. Two are devoted to palletizing, including discussions of pallet-size standardization and the use of disposable corrugated pallets. Another covers methods of packing delicate and sensitive equipment to withstand the hazards of transport. Still another describes the properties of large polyethylene shipping containers to withstand corrosion, to save shipping weight and thereby effect economies.

SWEDEN

Frozen pre-cooked meals for schools and factories

To reduce costs of serving meals to school children and factory workers too far away to go home for lunch, a method of distributing frozen pre-cooked meals to institutions provided with freezer cabinets of capacity to store a one-week to 10-day supply has been worked out in Sweden. According to Emballage Moderne (France), the pre-cooked meals are packaged in aluminum-foil trays shallow enough to be used for serving in the container. Lids, consisting of paperboard sandwiched between sheets of aluminum foil, are of sufficient rigidity to serve as support for the trays when used as plates. Specially designed heaters are provided for heating the meals.

ENGLAND

Giant flexible container for towing oil

A tubular flexible container, 100 ft. long and 5 ft. in diameter, that will float is helping to solve the fuel-oil transport problem in England. The huge container, capable of serving as a vessel to carry 10,000 gal. of kerosene, is described in *Fluid Handling* (United Kingdom). It is made of very strong woven nylon cloth coated with synthetic rubber. It is towed by a small launch equipped with an engine-driven pump. With the pumping unit used, the vessel can be emptied in about an hour. For return, empties can be reeled or inflated with carbon dioxide and towed again. After test towing trials, it was put into commercial use on 10-mile runs from a refinery to oil depot.

WEST GERMANY

4.5 hrs. to prepare meal for four

During a round-table discussion for housewives held recently in Germany, the chairman of the Food Trade Assn. in Western Germany was reported to have stated that the American housewife needs only 1.6 hrs. to prepare a meal for four persons in contrast to the German housewife's 4.5

For additional information, write: World Report Editor, Modern Packaging, 575 Madison Ave., New York 22.

hours. "Although there were some comments from several housewives about the exactitude of these figures," Verpackungs Rundschau (Germany), which reported the event, "there is no doubt that they prove that in the U.S.A. the pre-preparation of foodstuffs on the industrial scale is far more advanced than in Germany."

ENGLAND

Metal tamperproof seal on metal or glass

A new closure which obviates the need of an inner seal or overcap and provides a tamperproof seal both for metal cans and glass containers is described in Packaging (England). Distinctive features are the accurately formed prethreading, clean knurling which provides for a firm grip, and the tamperproof skirt portion which is locked to the metal flange or glass finish. This latter portion is attached to the main portion of the closure by means of four "bridge pieces." Applied to a modified tinplate nozzle on a metal can or to the specially profiled finish on a glass bottle, the tamperproofing skirt is spun in under the flange to secure the closure.

To open the container, the cap is gripped firmly by the knurled rim and turned in the usual manner. The top portion of the closure parts cleanly with a clearly audible click, so that any container previously opened is easy to detect. After initial opening, the cap may be replaced. The pre-threaded cap is furnished with an appropriate liner or wad and, since the tamperproofing seal is not engaged until the cap is fully screwed home, the seal is positive and cannot become loose in transit.

HUNGARY

EPF studies VPI applications

Trials carried out by Ladislas Marton, director, Packaging Institute, Hungary, on vapor-phase inhibitors showed they could be applied with satisfactory results only to the packaging of ferrous metals, according to a report in *Institute* of *Packaging Journal* (England). The greatest caution, the report stated, was advisable with packaging goods containing colored metals. In some cases, the trials showed contradictory results. As he wished to carry out further research, Mr. Marton asked European Packaging Federation members for experiences with the inhibitor, either in crystalline form or as paper treated with it. The summary of replies established that use of vapor-phase inhibitors, partly because of unfavorable experience and partly owing to other reasons, is not general in Europe. Vapor-phase inhibitors, chiefly as impregnations of paper, are applied mainly to protect ferrous metals, but are not recommended for preserving non-ferrous and light metals.

ENGLAND

Toothpaste with stripes enters British market

Success of Stripe toothpaste in the United States has in-spired a similar product called "Signal," now being produced under patent in England. According to Packaging News (England), the striped effect is produced, like the American product, with the aid of an injection-molded polyethylene insert fitting tightly within the metal shoulder and nozzle, and having five channels through which red antiseptic mouthwash passes when the tube is squeezed.

DENMARK

Amber milk bottles to preserve vitamin C

Designed to preserve the flavor of milk and to prevent deterioration of vitamin-C content, new amber-colored milk bottles have gone into production in Copenhagen, according to Packaging Review (England). The report states that sunlight on ordinary clear glass robs milk of 79% of its vitamin C, whereas with amber glass the loss is only 1.3%.

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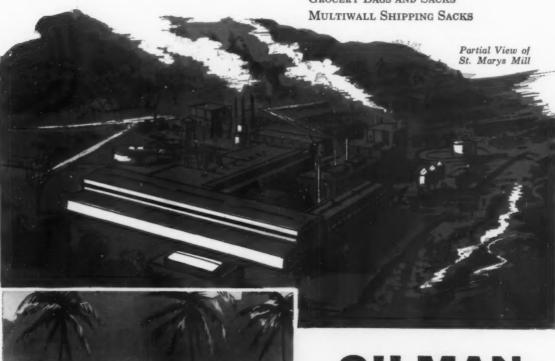
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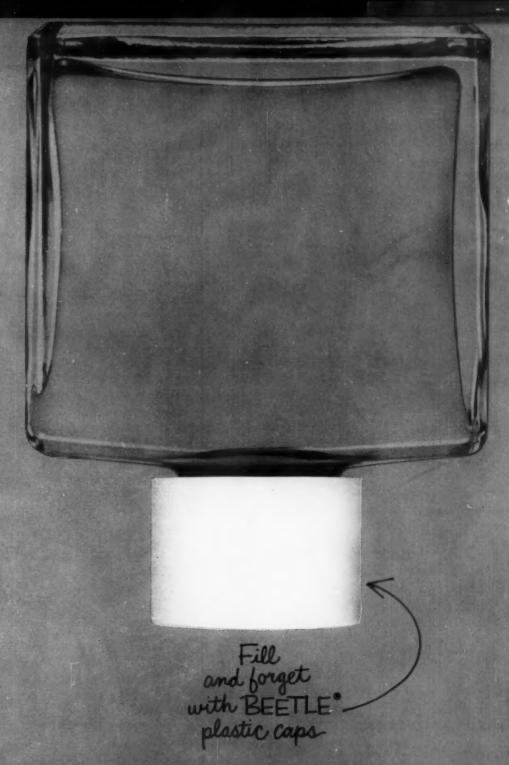
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Editorial Memo

The morning after

These lines are written on the morning after the fateful day of March 6, 1960—the day on which all food packaging, if it had failed to prove itself toxicologically safe for the contents, had to stop. At least, that's what the Food & Drug Administration told us.

They are still picking up the pieces in Washington and the details will have to wait for an after-press-time supplement. (See inside front cover.) But it is already apparent (a) that not a single positive new packaging clearance has been accomplished through F&DA and (b) that not a single package has been forced off the market. The wheels of food packaging are turning this morning as usual. But for how long, nobody knows.

After 18 months of getting nowhere. F&DA has done what it swore it wouldn't do and that is, in effect, to permit a blanket extension of the situation as is. By dint of great effort at the 11th hour, it has patched together a framework for continuation consisting of (1) we always said it was safe; (2) everybody else says it's o.k. and (3) maybe yes, maybe no—but go ahead anyhow.

We don't believe this is what Congress had in mind when it put the Food Additives Amendment on the books back in September, 1958. It certainly isn't what we had in mind when we published, month after month, the regulations and procedures which F&DA said it could and would enforce. It wasn't for us to say that it couldn't be done—although we flew the storm warnings months ago.

For reasons that remain obscure, Secretary Flemming fought down a move in Congress simply to extend the effective date of the law for a year or two. So now we have a law that can't be enforced and we have the sorry spectacle of a Government agency that ought to command the utmost respect backing and filling to try to justify an unjustifiable position.

The purpose of the law was to give food packagers a list of safe materials on which they could safely plan. A clear-cut postponement to a future date would at least have permitted planning to that date. As things stand, they can't even plan from month to month, for many of their most important materials are hanging by a thread of unofficial, uncertain extension which can be cut any moment. New materials are under a cloud.

It will take sharper brains than ours to point a way out of this mess. And, we suspect, it will also take sharper brains than have until now been apparent on the Washington scene.

The Editors

Modern Packaging, Executive and Editorial Offices, 575 Madison Avenue, New York 22, N. Y. Teletype: TWX-NY 1-3063, Cable address: "Breskinpub."

From Nashua's talent with paper and packaging . . . new products that do more for you . . .

Nashua's new Peelac* peelable box tape makes possible a truly easy-open carton

Nashua's new Peelac peelable box tape is good news for shippers. An easy pull...and shipping containers are open. No knife damage to contents! No need for pull-tab devices. And Peelac makes possible a wide variety of container designs — including cartons that can double as store displays, or trays for shelf display.

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OF THE ROLE LABOR

What every management should know about money saving and money making through the contributions of packaging research is clearly revealed in the experience of the Bristol-Myers Co.



Optical comparator projects greatly magnified silhouettes of containers on a screen. With this instrument, Bristol-Myers technicians can measure to 10,000ths of an inch contours almost impossible to detect otherwise. Measurements are read on calibrated dials. In photo, Edward Adams, packaging engineer, measures finish on Vitalis bottle in connection with development of new dispensing closure.

Packaging came before science in modern industry and if a careful check could be made, says a prominent technologist, off the record, it would be an appalling revelation of the billions of dollars worth of packaging materials that are still bought without scientific evaluation.

"Oh, most companies will say they have testing facilities," he says, "but there are hundreds of them—and I could name big ones as well as little ones—still completely uncommitted as far as a scientific approach to packaging is concerned. They will spend hundreds of thousands of dollars on the development of a new product, yet they will put it in a costly package through panic pressure of the sales department with little more evaluation than a supplier's say-so."

From comments like this it is clear that even today there are too many managements unaware of the substantial savings and improved consumer acceptance to be gained by package research—or of the extent of packaging-research facilities required in the better companies today to handle the volume of problems imposed by the increasing growth of business, competition, the complexity of packaging materials and advancing technology.

This, of course, can be due to management shortsightedness. But it can also be due to neglect of the packaging laboratory to make known to management what it does and why, and what it needs.

Perhaps these points can best be driven home by examining in detail the experiences of one enlightened company in which packaging research and development is a major concern, with the complete understanding and backing of management.

A convincing example

Such a company is the Bristol-Myers Co. (\$139 million annual sales), proprietor of some of Amer-



Impressive staff at Bristol-Myers packaging laboratory includes six members with technical degrees, two technicians, two lab assistants and one secretary. Left to right: Albert R. Jasuta, assistant director; Lab Assistant Pearline Edwards; Secretary Inge Broderius; Lab Assistant John Lee McNerney; Engineers L. M. Warner and Edward Adams; Technician Joseph Marx; Dr. Kwoh H. Hu; Engineer Samuel Romeo; Ralph H. Thomas, director. Missing from photo is Technician Jerald Solla.

ica's biggest brand names in a field ranging from toiletries to ethical drugs. To serve what is its largest operating division—the Products Division—Bristol-Myers has just completed enlarged and modernized packaging-laboratory facilities at its headquarters in Hillside, N. J., and a full report on the story of the packaging philosophy behind this activity is told here for the first time.

It is estimated that this division, through the Package Research Dept., attains potential savings running well up into six figures. And this, it is pointed out, is a clear gain over and beyond the benefits of literally hundreds of new and improved packages developed through package research that have increased sales and consumer acceptance. This record should be enough—when related to Bristol-Myers' Products Division sales—to make any management sit up and take notice.

With the exception of certain advanced pieces of equipment and uncramped working space, the casual visitor to the Bristol-Myers laboratory may see little that is not standard procedure, but he cannot fail to be impressed by the number of specialized technologists with engineering degrees on the staff. The significance is in the recognition management has given to packaging-research accomplishments by

providing ample facilities and sufficient technical personnel to assure continued results.

Ten years ago Bristol-Myers' packaging research laboratory was part of the company's product development department, with only two people devoting full time to packaging. Today it is a completely separate laboratory of Research & Development, occupying an area 70% larger than in 1950 with a staff of 11 and advanced equipment for almost every kind of package testing and evaluation work.

The budget for packaging research represents less than one tenth of 1% of Product Division sales. This is equivalent to only about one-third of the average of expenditures of three-tenths of 1% for packaging research reported by companies with planned packaging-research programs and known costs who answered a Modern Packaging questionnaire on this subject in 1958^1 .

The significance of this expenditure to Bristol-Myers is even more revealing if related further to the findings of Modern Packaging's survey. For, whereas sales increases of those companies using packaging research for at least 10 years were reported in the survey as almost double the average for most packaged goods, Bristol-Myers' sales have

¹See "How Much Research? MODERN PACKAGING, Sept., 1958, p. 99.

Foil carton to upgrade Ban package is result of laboratory study that provided a foil lamination used at no increase in package cost and even afforded savings over previous packaging costs. Albert R. Jasuta, assistant director of Bristol-Myers Packaging Research Dept., is shown evaluating thickness and construction of new foil cartons.

more than tripled during the past 10-year period.

Obviously, this didn't just happen. It is the result of a 10-year program of systematic reporting to management of the laboratory's accomplishments, with a carefully planned projection of packaging requirements for the future.

The why

The starting point was a clear-cut analysis of the reasons for expansion, which in Bristol-Myers' case can be summarized under six headings:

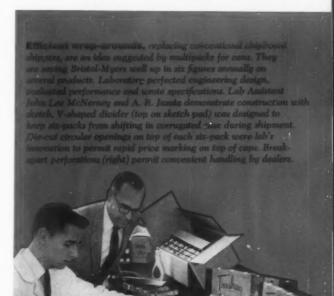
1. Pressure of business. The increasing volume of packaging problems to be tackled can be visioned quickly by a comparison of sales reported in the company's annual reports—\$41 million in 1950; \$139 million in 1959.

2. New-product development. Success of all packaged-goods industry today depends on the steady introduction of new products to promote healthy growth and to take the place of those which technological improvements and competition make obsolete. Ten years ago Bristol-Myers' objective was to introduce one new product a year. Today the objective is a minimum of four per year—each requiring packaging study.

Cost reduction. The steady upward trend in the cost of packaging materials and labor makes necessary constant study of ways to reduce costs and improve the profit picture.

4. Upgraded appearance. There is constant demand for packaging refinements to create better shelf impressions—a richness that was unknown a decade ago. It is up to package research to provide the means for achieving this upgraded package







Competitors' products are tested periodically in Bristol-Myers packaging laboratory. Dr. Kwoh H. Hu compares torque of Ban package with competitive roll-on packages, which the laboratory tests every six months.



Aerosol research includes periodic checks for corrosion in dentifirice containers. Engineer Edward Adams studies coating on test sample steel containers, while Technician Joseph Marx observes control samples. Between them are test samples of aluminum containers.

appearance without involving any undue expense.

5. Competition. Every company today must keep a constant check on what its competition is doing and a part of the package-research program at Bristol-Myers is to test periodically the packaging of all competitive products. (For example, the Bristol Myers laboratory tests all roll-on deodorants every six months.)

6. Service for divisional and regional requirements. Last year Bristol-Myers' package research handled 264 domestic divisional requests and about 50 from a dozen or so foreign countries. The laboratory is called upon for testing and evaluation of packages produced by all of the company's divisions. This phase of its activities has been increased immensely by the parent company's growth, the expanded foreign operations and the acquisition of Grove Laboratories, Clairol and Luzier.

The how

"We made our first report to management showing the need for expanded facilities in 1956," says Ralph H. Thomas, director of the Packaging Research Laboratory. "To do this, we drew on previous records of improvements. We related cost savings to budgetary requirements for space, equipment and personnel projected in terms of company growth.

Expanded foreign operations bring more requests to the packaging laboratory for evaluation and solution of problems which cannot be handled in foreign plants. Here, Engineer L. M. Warner is shown measuring bottle capacity during the solution of a special problem for a Bristol-Myers foreign division.



We included a study of progress being made by other firms in packaging research in anticipation of the performance that could be expected with improved facilities in our own organization."

In the preparation of this report, an over-all analysis was first made of the types of problems that would be faced by company and divisional activities in future years.

A percentage breakdown of the time spent on various laboratory activities helped to show how an understaffed laboratory could not possibly concentrate sufficient effort on specific projects when its services were urgently needed:

Service calls	4%
Competitive testing	6%
New-product development	52%
Writing specifications	3%
Evaluation	10%
Cost saving	25%

Information to determine best procedures was sought from various technical and trade organizations in the packaging field.

A review of all published information was conducted to obtain data on procedures and trends.

Meetings were arranged with personnel of supplier laboratories to obtain information on their thinking. There is great need, Mr. Thomas feels,



Engineering design to translate aesthetics into efficiency for high-speed production is one of the most essential functions of today's package research. At Bristol-Myers, Packaging Engineer Samuel Romeo drafts proposed redesign of Vitalis bottle to provide proper opening, fill level, head space, label area, weight, finish, sturdiness for conveying and other factors that will assure smooth operation on production line.

for closer liaison between supplier and user laboratories in establishing top-quality ware, fair and reasonable controls, efficient test methods and profitable economics for both.

Finally, visits were made to five other firms known to have outstanding packaging-research laboratories. And while it was, of course, true that each of these laboratories specialized in the types of packaging materials and containers most widely used by these companies for their specific needs, Bristol-Myers was able to learn a great deal that

Leakage test is being made on new dispenser closure for Vitalis packages which have been stored under accelerated conditions in a vacuum oven. Laboratory Assistant Pearline Edwards is using a strip of blotting paper to detect leakers.



Glass slicer has more than paid off as an aid in studying proper distribution of glass. Technician Joseph Marx is cutting a Trushay bottle during a research project that provided a more pleasing shape at no extra cost and with no sacrifice in strength of glass.





Top management backing for Bristol-Myers' advanced packaging research facilities is largely due to sponsorship by John J. Clarey, Jr., vice president and director of product planning (right at desk), and Dr. Wilhelm Reiss, assistant vice president and director of research (center), shown with Ralph H. Thomas, director of packaging research department (left). On window sill is Packaging Institute's 1958 Corporate Award received for Bristol-Myers' Ipana Plus squeeze bottle.

could be incorporated in its own planning about:

- Operating procedures.
- Estimated budget requirements for operating laboratories of various size.
- Required apparatus, equipment and personnel for efficient functioning.
- · Personnel qualifications.
- Methods used for designing, testing and recording project results.
- Methods used for establishing standards and writing specifications.
- New laboratory equipment and apparatus.

Specifically, the facility of optical-comparator measurements was seen in the laboratory of a large chemical company. The necessity for meticulously

Sectional design of humidity test cabinets in Bristol-Myers packaging laboratory is pointed out by Lab Technician Jerald Solla. New sections may be added -joined as shown in photo—as more capacity is required.



detailed package test standards to back up packaging specifications was impressively demonstrated in the laboratory by a large food company. The value of strong vacuum-oven test procedures for correct control of package stability was observed in the packaging laboratory of a large drug firm.

The result

Today, Bristol-Myers' laboratory, located on the seventh floor of Plant No. 3 at Hillside, represents one of the most advanced user-company packaging research set-ups from the standpoint of equipment, facilities and personnel.

The 3,200 sq. ft. of space provides three large laboratories; an instrument room; a special room containing compression, drop and vibration testers for shipping-container evaluation; a large storage room maintained at 104 deg. F. and 20% relative humidity; a special area for two large walk-in humidity test cabinets, kept at 130 and 100 deg. F. and 80% relative humidity, respectively; storage areas for supplies and records, and offices for the director and members of his staff.

The staff of 11 includes the director and five other members with engineering classification, four technicians and a secretary.

Among the advanced features is the sectional design of new humidity cabinets that can be enlarged as work demands simply by adding new sections.

The laboratory is one of the few among packageuser companies equipped with a glass-slicing machine, which already has more than paid off as an aid in studying proper distribution of glass. This enabled the laboratory to make such improvements as the adoption of a more pleasing shape for Trushay hand lotion at no extra cost by strengthening where needed to reduce breakage and to cut shipping-container cost by eliminating overpacking.

The laboratory is one of very few in the country, among packaging plants, to possess an optical comparator, an instrument which permits detailed and accurate evaluation in a manner that could not have been done before.

The optical comparator was responsible for determining the proper height dimension of glass containers for Ban to prevent cap breakage. The comparator not only corrected this condition, but set the design for lightweighting glass and providing for redesign of the snap-ring area to give a gastight seal between the polyethylene ring and glass lip of the container.

With the expansion, it is no longer necessary to employ independent testing laboratories. All necessary work can be done in the company's own laboratories—and observed every step of the way under its own controlled conditions. [Continued on page 188]



Three chances to face forward

Big new illustrations
of famous blue bottle
on three sides of Bromo Seltzer carton
make the most of familiar identity,
encourage upright shelf position,
save money by one-color printing

Edge-to-edge picture on new carton provides maximum display. On the shelf the effect is almost like that of a row of actual bottles. Same design is used on all three sizes of Bromo Seltzer packages.

Old carton carried small halftone of bottle only on one face. Horizontal panel was designed to meet retail drug-store preference to stack cartons sideways.



The distinctive blue bottle that has identified Bromo Seltzer for more than 50 years is regarded by the makers of this product as one of its most valuable assets. Yet, for marketing purposes, the bottle must be enclosed in a folding carton which is basically like most every other carton on the shelf.

The way in which the company has revamped the carton to give instant identification of the inner package, and the reasons behind this redesign, should be of interest to other marketers of health and beauty aids with long-established brand names whose packages need revision for supermarket sale.

Bromo Seltzer is made by Emerson Drug Co., Baltimore, a division of Warner Lambert Co.

The new carton features a "life-size" illustration of the bottle in realistic blue color on three of its side panels, each picture extending from edge to edge of the box, covering the entire surface of each panel. Only on the fourth side is the illustration omitted to provide a full-length panel for printing recommended uses, dose directions and active ingredients. The strategy is to force three out of four chances that the large bottle illustration will be faced forward on the shelf. In mass, the effect is almost that of a shelf of the familiar bottles themselves.

Emerson's thinking can be more easily understood when comparison is made between the old and new cartons. The old carton, while aesthetically conceived, was adopted about four [Continued on page 198]

Supplies and Services: Design and market evaluation by Associated Industrial Designers, 95 Madison Ave., New York 16. Cartons by Gair Boxboard & Folding Carton Div., Continental Can Co., 530 Fifth Ave., New York 36. Bottles by Maryland Glass Corp., Baltimore 30.

Valsself

Oval-shaped bottle, formed from a folded and blown web of vinyl sheet, is distinguished by fin seal at sides ending in flat, heat-sealed neck. Elliptical molded polyethylene slip-on cap protects the top. Base is flat. In France, this %-litre bottle costs about one-third as much as concentional blow-molded polyethylene bottle.



Opening is effected by snipping off corner of top seal, as shown in photo above. The handy-to-grip, paperlabeled bottle contains dishwashing detergent, which, as illustrated below, is measured out by the tablespoonful.



Bottle

From Paris comes news of what may prove to be one of 1960's most exciting prospects for liquid packagers: a bottle formed at low cost from a single sheet of transparent plastic. This is no longer just an idea, but a full-fledged commercial adoption by a leading French detergent manufacturer. It won an "Oscar" for packaging in France's 1959 national contest, as an "unprecedented innovation."

The method of manufacture of the bottle is unique. In a compact, completely automatic machine, operated in the packager's own plant, semirigid plastic sheet is fed from a reel, folded over, softened by heat and formed by air pressure in simple molds into the two half-contours of the desired bottle. The edges are sealed by high-frequency heat and the flanges trimmed close to the body of the bottle. Filling is through the open top, which is then heat sealed. The consumer is instructed to open the bottle by snipping off a corner of the top seal with a pair of scissors.

The pioneer packagers are Soc. Solitaire & Saponite Reunis S. A. of Levallois-Perret (Seine), on the outskirts of Paris. Early in 1959, in their constant quest for a better, cheaper pack that could fight at an economic level for the liquid-detergent market, they decided to experiment with the plastic-sheet bottle. It needed courage, for this bottle, formed from 14-mil polyvinyl chloride, was being widely criticized and condemned. It was impracticable, critics said—its appearance was not good; it shattered easily when dropped from table height; it could not (at that time) be pre-printed, or adequately resealed; it lacked some of the attributes of glass and blow-molded polyethylene containers.

But Solitaire executives stubbornly held to their view that as the trash bin is the inevitable end of the short life of a dish-washing detergent pack, it

Bottle-making machine in Solitaire plant, viewed from reel-feed end. Web of PVC sheet feeds first into folding mechanism, then through infra-red pre-heating chamber and finally into molding section.



from plastic sheet

First commercial application of a radically new principle is found in France.

Detergent manufacturer produces own bottles from 14-mil PVC, using automatic machine that turns out 30 low-cost, fin-sealed containers per minute

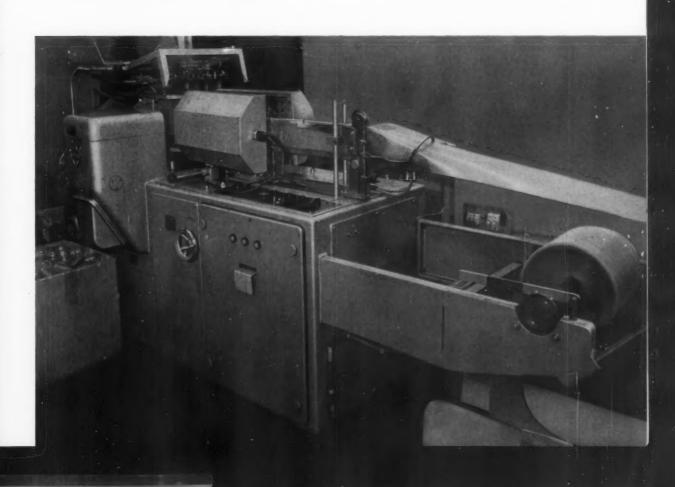
should be much less durable, elaborate and costly than glass or blow-molded polyethylene.

In the end, virtually all of the difficulties were overcome. In a tough test marketing in the Lyons zone of France, against formidable competition from two nationally known detergents, both in colorful blown polyethylene bottles, the plastic-sheet bottle has proved itself to Solitaire.

The economics of the new container compared with the polyethylene bottle have made it possible for the "Super Soli-Vaisselle" detergent to be sold in Lyons at slightly better than 30% below its nearest rival, quantity for quantity. In package cost alone, the sheet bottle, with cap and label, costs about 2 cents as against approximately 6 cents, typical

market value in France, for a polyethylene bottle containing about one-fifth more liquid.

The test marketing was launched last May, with a "two-for-one" price offer. Public and retailer acceptance since have been such that new machines are now being installed, or are on order, for a much more ambitious campaign. An automatic system of filling and capping is being devised by Solitaire plant engineers, ready to come into operation with the newer bottle-forming machines. At present, filling operations are carried out semi-automatically on an improvised rig. The bottles are taken from bins, presented to jet filling heads, removed and transferred to the sealing bench, where jaw-type machines heat seal the opening. A yellow slip-on





Three at a time, finished bottles are discharged from molds (visible at top of delivery chute to left of center housing). Continuous machine cycles every 6 seconds. Note, at extreme left, emergence of waste web.

cap of molded polyethylene is added to the bottle.

The Super Soli-Vaisselle bottle is oval shaped, by choice. It could be made perfectly round. During the forming, horizontal corrugations are produced in the body of the bottle, which serve the double purpose of lending rigidity and providing a secure hand grip. The pattern of corrugations is interrupted, however, to provide a flat spot for the glue-applied paper label on the front of the bottle and a small rectangular panel on the back where the name "Solitaire" is molded in relief. The yellow label is printed in red and black.

Shapes, contours and cross-sections could be of almost any style within the well-known scope of paired molds. A particular feature of the bottle, however, is that there is no seal at the base, as this is formed from the folded-over section of the web, slightly extended. The fin-seal weld is at the sides, shoulder and neck of the bottle only, the fin measurement averaging about ½ in. wide.

The machine producing the bottles has run almost trouble-free at the Solitaire plant since it emerged from its first teething troubles. The male operator's duties consist solely of changing the reels of PVC, removing the bins of finished bottles, occasional testing of the containers and disposal of the scrap web. Scrap web can be re-used.

When faults develop, as they sometimes do, they are almost entirely traceable to defects in the PVC sheet itself, such as gauge variation and pinholing. As the sheet is slightly blown during the forming process, pinholes, of course, enlarge and thinning may be aggravated to the point of fracture.

Simple, visual inspection can detect any imperfect bottles and this is usually carried out by the filling operators. It has not been found necessary to have continuous inspection vigil on bottle output.

The machine has been operated continuously in excess of one 8-hr. shift per day and during a 1-hr. period of observation only eight bottles were discarded—six because of malformations due to changing over from one reel to another and two because of pinholes in the web. With a three-mold machine, the production rate at Solitaire is 1,700 an hour for ½-litre bottles. A potential maximum of 3,000 an hour is claimed by the machine manufacturer.

The Solitaire machine operates at 10 cycles a minute. Thus, three completed bottles are ejected every six seconds, approximately.

From the reel of material mounted on extension brackets, a long loop is drawn downwards and then taken up over a web roller and threaded through a guide into an inverted V-channel. At the start of operations (i.e., when the first web is fed through), the process of threading in the web continues menually through subsequent stages of the machine until it reaches a ramp fitted with three pairs of circular rubber grippers beyond the molding station. It is this set of grippers which intermittently pulls the web through the machine.

After the first threading through, however, subsequent webs can rapidly be brought into almost butt contact with the tail end of the previous reel and, with the assistance of self-adhesive tape, temporarily joined to it so that, in effect, there is a continuous web being fed. This is assisted by a pair of grippers at the V-guide rail station which reciprocate in time with the cycling of the machine, providing a steady, even pull on the web.

Once through the V-channel, the material enters the infra-red pre-heating area where it is rendered sufficiently plastic for molding.

The molding station consists of three sets of paired water-cooled molds, which clamp on to the web, followed immediately by the high-frequency welding of the periphery. Then comes a short dwell to allow for the setting of the weld and the introduction of air (at two to four atmospheres pressure) to blow the web to the shape of the mold. Venting takes place through microscopic holes in the sides of the molds and cooling of the formed containers occurs at this stage.

The molds open, releasing the web to be pulled forward into the final station, i.e., the punching out of the containers by horizontally operating pneumatic dies. These work with the same motion as the closing of the molds, so that while one set of containers is being molded, the previous set is being punched out of the web. Ejection is down a chute into a waiting bin and the scrap web is pulled through and ejected continuously in straight-line flow at the end of the machine.

In a newer model of the same machine, provision is made between the molding and piercing station for a filling unit, followed by neck sealing and punch severance of filled containers from the web.

Starting-up time each day occupies about 5 min., from cold. Change-over of reels need cause no down time. The operator has ample opportunity to remove the core of the previous reel, mount a new one and feed it over the roller and through the V-guide before the remnant of the previous reel has been drawn into the heating chamber. Normally the loss of about six containers is considered reasonable in the molds at this stage.

The 14-mil PVC used by Solitaire is slightly plasticised and there is very little change in wall thickness in this elliptically shaped bottle, though of course the degree of thinning would depend on the amount of distention of the material in the molds to fill it out to the shape and size of the bottle. Measurements of the Super Soli-Vaisselle bottle, with its ¼-litre content, are as follows: 5½ in. tall, 2 in. in width and 1½ in. thick.

Although this is the first commercial application of the machine, other materials have been tried out and promising results have been achieved with high-density polyethylene. PVC, however, is preferred in Europe on account of the price advantage. It can be used without toxic stabilizers or plasticizers for packaging food products.

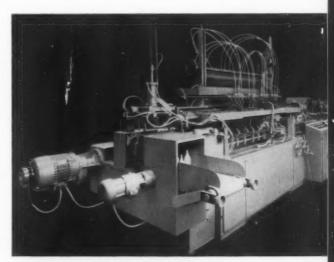
One of the original objections to the pack-its

low resistance to shock when dropped empty from, say, counter or table-top height—has proved to be groundless in practice. When the container is filled, no more breakage is encountered than with glass in transit or in the retail store. Considerable advantage is gained in transport from the lighter weight of the sheet bottle and the smaller outer container it requires compared with glass. Moreover, it can be jumble packed or jumble displayed.

The containers can be molded with varying neck forms to take plug, screw or slip-on caps. Branding can be carried out by die embossing during the production process by conventional labeling, or by post-printing. Also, it now appears that pre-printing of the web is feasible; if the printing appears in the middle of the container only, distortion is so slight that it need not be considered.

Other applications of the bottle are projected, including one in a large German dairy where a completely automatic unit has been installed which will not only produce the bottles, but also fill and seal them prior to ejection. The immediate aim is to supply single-shot flavored-milk drinks to neighboring factory canteens, etc.

SUPPLIES AND SERVICES: "Renopac" machine ("Allpac" in the U. S.) by Franz Baumann & Co., Talstrasse 39, Zurich, Switzerland; distributed in France by Soc. d'Emballages Plastiques, 24 Rue de Londres, Paris 9e, France. PVC sheet by Lacollonge-Flexone, 50 Cours de la Republique, Villeurbonne (Rhone), France, using resin by Pechiney, 23 Rue Balzac, Paris 8, France.



Completely automatic unit installed in a German dairy will not only produce bottles from plastic sheet, but also fill and seal them prior to ejection. Product is to be a single-shot flavored-milk drink which will be sold to neighboring factory canteens.



Self-selection appeal is inherent in new package for Coastal Abrasive's drill accessory. Blister holds tight for two-year shelf life.

Packagers operating short-run production lines in many product fields will be interested in a simple but ingenious innovation that makes blister-package assembly an economical, fully manual procedure. The secret: The plastic blister comes pre-coated with pressure-sensitive adhesive. Hand pressure is all that's required to adhere the blister firmly to the hang card, thereby eliminating the need for special heat-sealing equipment or for the die-cut, double-folded paperboard cards now generally used.

One of the first packagers to adopt the stick-on blister for commercial application is Coastal Abrasive & Tool Co., Long Island City, a relatively small business (40 employees, \$1,000,000 gross). In a pilot packaging operation, this manufacturer of power-tool accessories is using the hand-assembled blister pack as the container for a ½-in. shank arbor, an adapter for electric drills.

The new package already has paid off in a onethird sales increase for this product, Coastal Abrasive reports. Its total cost is 20% less than that of the previous container—a rigid, clear polystyrene jar with friction-fit lid. This packaging revision has

STICK-DII

enabled the company to cut the retail price correspondingly. In addition to lower initial cost, the carded blister pack is inherently a more powerful self-selection merchandising tool than the plastic jar it replaces, a factor which the packager also credits with helping to stimulate sales.

Designed for pegboard display in hardware and automotive-supply stores, the card is printed with promotional and directional copy. It is large enough to discourage attempts at pilferage. By comparison, the small plastic jar formerly used had to be confined to shelf or counter display under clerk supervision. To permit product visibility through the transparent polystyrene, the label was a paper disk pasted inside the bottom of the container. Half hidden by the product, its size left little room for copy other than basic catalog data. Placement of the label on the package worked against the establishment of all-important brand identity.

Both components of the new self-selection package (pre-printed hang card and 7.5-mil acetate blister) are delivered in bulk quantities to Coastal Abrasive by its supplier company. Release paper



Former container, a polystyrene jar, left little room for selling copy on halfhidden label. Small jar had to be shelf merchandised under close clerk supervision.

BLISTER

Pre-formed acetate bubble, treated with pressure-sensitive adhesive to make hang-card blister packaging a hand operation, cuts costs 20% and boosts sales 33% for Coastal Abrasive & Tool Co.

covering the adhesive-treated flanges of each separate pre-formed blister prevents them from adhering to each other or to foreign surfaces prior to the start of the packaging operation.

Package filling and assembly is a simple, one-man job. The operator places a quantity of blisters, cards and arbor shanks before him on a table. After stripping off the release paper, the blister is placed openend up into the cavity of a simple jig and one of the small parts is set into it. Then a card is positioned face down over the blister and sealing pressure is applied by running a rubber hand roller across the back of the card. A solid printed panel on the face of the card, conforming to the length and width of the blister's flange, assures accurate positioning of blister on the card.

Using this procedure, a single operator can turn

out up to 1,500 finished packages a day, a substantially higher production rate than was achieved in the former packaging operation, officials of the Coastal Abrasive company report.

According to the package supplier, the adhesivetreated blister will retain full gripping power for a period of more than two years under normal conditions prevailing in retail stores.

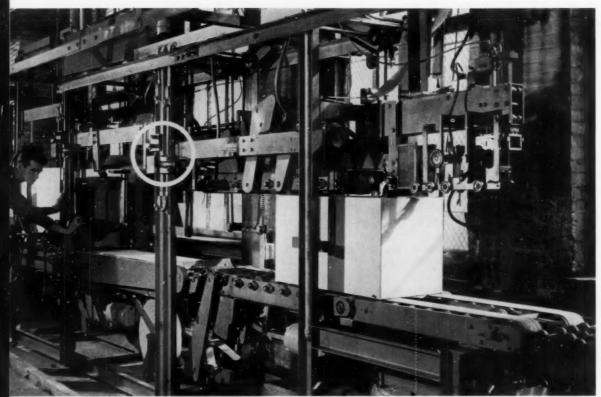
Lower cost, improved display appeal and increased sales are testimony to the success of this new pressure-sensitive blister package. Proof of its long-range effectiveness is the fact that Coastal Abrasive now plans to adopt a similar carded blister package for 32 additional small tool products.

SUPPLIES AND SERVICES: Printed hang cards and preformed pressure-sensitive acetate blisters by Jackmeyer Corp., 253 W. 26 St., New York 1.

No machine is needed for blister-package assembly. Operator places blister and product into the cavity of a simple jig, positions hang card and applies sealing pressure to the back of the card with a hand roller. Release paper keeps blisters from sticking together before use.



Adjustable tape sealer



Straight-line action of Manhattan Shirt's automatically adjusted case-closing machine starts with adjusting section (in front of operator) where side arms square case and a top elevator drops to gauge height of each case in turn. Subsequent elevators align themselves with the first unit by means of electrical switches that contact fingers (circle) on preceding elevator. Successive tucker arms and plows close top flaps for taping.

A troublesome bottleneck in the sealing of shipping cases at Manhattan Shirt Co.'s huge order-assembly and packaging center in Paterson, N. J., has been broken with the adoption of a new automatically adjusted taping unit that speeds packaging of 750,000 cartons per year, involving 120,000 product combinations in 13 sizes of corrugated shippers.

This compact, 21-ft, case-handling mechanism, which can close up to 10 cases per minute over the extreme range of case sizes used by Manhattan, utilizes simple mechanical and electrical techniques (1) to conform to varied case shapes in succession and (2) to apply two strips of reinforced kraft tape that securely close both tops and bottoms of each shipper. Eliminating one operator, formerly needed to run slower semi-automatic stapling equipment,

this key piece of straight-line equipment also reduces down time and has thereby substantially increased the output of the entire packaging department. The machine automatically adjusts itself to any sequence of case sizes, handling one at a time.

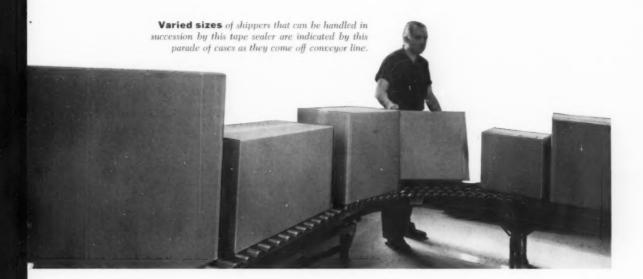
The new machine brings to the tape sealing of shipping containers the desired principle of wide adjustability to container sizes that has recently been noted in glue-sealing equipment.*

The machine is located at the first-floor end of a mammoth conveyor that stretches up to the third floor and through hundreds of feet of order-assembly rooms where picking bins contain everything from shirts, sportswear and underwear to sweaters, pa-

^{*}See ''Sealer for Random-Size Cases," Modern Packaging, Nov., 1959, p. 149.

for shippers

Manhattan Shirt cuts down time and speeds packaging of its varied product line with a self-setting case-closing taper that employs simple electro-mechanical techniques to handle 13 sizes of shippers

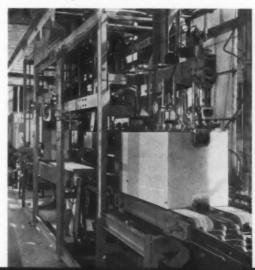


jamas and swimsuits. Orders are printed on electronic business machines that simultaneously stencil address labels for the cases.

After each order is hand loaded into its shipper and the label attached, cases move down to the shipping floor by either the main trunk line or a high-speed spur conveyor. At this point the shipping cases are weighed and then enter the initial stage of the three-part sealing machine. Here are the successive steps in the three operations:

1. Side-adjustment arms close and square the case in the center of the machine conveyor. At the same time a height-adjustment elevator drops to the top of the case. Tucker arms, attached to this elevator, close the small end flaps on the top of the case. The tucking arm at the leading edge of the case contains two electrical switches. One stops the elevator when it touches the top of the [Continued on page 178] Supplies and Services: Automatic case tape sealer by General Corrugated Machinery, Palisades Park, N. J.

Taping stage utilizes top and bottom feed, and wetting and cut-off mechanisms to dispense two strips of gummed kraft tape. Tape is adhered with compression rollers and plunger-activated rollers (right). Another case of different shape and size is waiting for finished case to trip a switch that permits machine to readjust itself and start cycle over again.





Main dish on dry-grocery shelf

Latest concept in convenience foods is the New Horizon Foods line being introduced in selected markets by the Jell-O Div. of General Foods Corp. Initial product is described as the first dry-shelf item that offers a complete dish in itself. The Italian Style Casserole Mix is packaged in a full-color printed carton carrying an appetizing illustration of the prepared dish and containing the dry-packed product (casserole mix, seasoning and cheese in three separate foillaminated envelopes) along with a throw-away aluminumfoil baking pan in which the casserole is mixed, oven baked and served. The consumer merely adds tomato paste or tomato sauce to the 81/2-oz. package to serve four. The new product makes a main dish of elbow macaroni and protein morsels with onion, green pepper and cheese. Developed in response to growing preference for easy-to-prepare foods that can be stored on the shelf in the package without refrigeration, the new product will be followed by others to be marketed soon. Foil pan by Kaiser Aluminum & Chemical Sales, 1924 Broadway, Oakland 12, Calif. Envelopes by Cellu-Craft Products, New Hyde Park, N. Y. Carton by U. S. Printing & Lithograph, 340 Beech St., Cincinnati.

IDEAS

Glamour in molded plastics

A virtually unbreakable molded-plastic container that also combines the attributes of dining-table glamour, dispensing ease and product visibility is being used by the Monterey Cheese Co., San Francisco, to build new sales appeal for Montco grated Parmesan cheese. It is another example of the "non-commercial" look in consumer packaging.

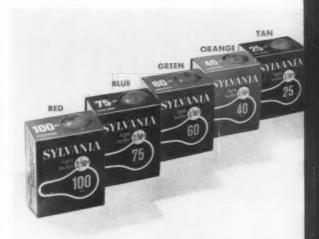
Designed for convenient hand holding, the new container's gracefully tapering seamless body is rigid transparent butyrate. Bottom and top removable closures are white polyethylene. The product is dispensed by shaking it through a slot in the narrow, gabled top of the container. The plugtype dispenser-orifice closure is removed simply by flipping it up with the thumb. It can be replaced for secure package reclosure. At Monterey's plant, the container is filled through its broad bottom opening. After filling, a flat-based polyethylene closure is snapped tightly over the beaded bottom rim. This closure can be removed by the user for refilling the package. Dispensing container designed by Channing Wallace Gilson, 2046 Hillhurst Ave., Los Angeles, and produced by Arant & Co., San Rafael, Calif. Paper label by Avery Label Co., Monrovia, Calif.



Light-bulb packs color coded for wattage

Sylvania's new color-coded Twin-Pack system of merchandising electric-light bulbs makes one wonder why it wasn't done long ago. Not only does it perform a customer service, but it also gives the company's packages an edge in display appeal over competing brands.

Adopted after more than three years' study of consumer and retailer needs, the Sylvania Twin-Pack system assures instant identity of each popular wattage by its own distinctive color-coded package. Color coding is carried all the way back to mass display and shipping cartons to simplify stocking and re-ordering. The new Twin Packs consist of a corrugated inner sleeve with a chipboard, color-coded outer sleeve and a window at each end showing the lamp. Their compactness permits the retailer to stock more bulbs per square foot, maintain full-shelf inventory, increase turnover, cut out-of-stock losses, thus offering a potential to increase profits on light bulbs up to 15%, Sylvania estimates. Design program by Lippincott & Margulies, 430 Park Ave., New York 22. Outer sleeves by Robertson Paper Box Co., Montville, Conn. Inner corrugated sleeves by Hankins Container Co., Div. The Flintkote Co., 14801 Emery Ave., Cleveland 35.



IN ACTION

Polystyrene foam upgrades display appeal of fishing reels

Low-cost, lightweight expanded polystyrene is finding increasing application in many product-packaging fields. One of the latest examples is the multi-part shipper-and-display combination which has been adopted by the Langley Corp., San Diego, Calif., to give added merchandising appeal to a line of seven fishing reels.

The company's new double-duty molded foam-plastic container consists of an outer case with a longitudinally halved cover and seven snug-fitting but removable platforms with depressions contoured to the general shape of the individual reels. For striking impact on display, the container's tray and cover sections are black; the platforms are white. Located underneath each platform is a film bag for packaging the reel when it is sold, as well as guarantee literature and a reel-disassembly tool.

The shock-resistant shipper is constructed for rapid conversion into a counter-display unit, Langley reports. The edge of one of the cover halves can be fitted into a slot in the bottom of the tray to provide sturdy easel support. Shipper-display by Dixon Mfg. Co., South El Monte, Calif., using Koppers' "Dylite" expandable polystyrene.





Three different machines at the Kroger Co.'s Louisville bakery demonstrate versatility in breadwrapping techniques using thermoplastic films, Pliofilm and polyethylene are being run on both a new machine (left) specially built for polyethylene and two machines (right) modified for wrapping with these newly important materials (National, left and center; AMF, right).

Trend to films for

Behind the movement to polyethylene and other low-cost thermoplastics is a story of conquest over machine problems important to every packager who wants to use a transparent wrap

The recent rapid growth of polyethylene and other soft plastic films in the bread-wrapping field offers convincing evidence that even the most stubborn problems formerly encountered in automatic overwrapping with such films can now be solved.

Certainly, as packagers, film suppliers and machinery men overcome the tough challenge of securely packaging at favorable speeds such high-volume but tricky items as soft, irregularly shaped loaves of bread, the technical and mechanical obstacles to automatic plastic-film wrapping of other products will fade away.

Thus, an examination of the present situation in bread wrapping should be instructive to all packagers who would like to use plastic films in high-speed, automatic, overwrapping operations at low cost. Most of the interest presently centers in polyethylene, which for some time has been the lowest-cost transparent wrapping material.

The problems have been tough. For the past two years, bread production all over the U. S. has been in and out of thermoplastic film wrappers as bakers have been alternately (1) attracted by the merchandising advantages of transparent polyethylene, which gives desirable barrier properties and a soft feel to the wrapped loaf, or (2) repelled by the intrinsic mechanical problems of handling this limp material in machines and getting it to seal tightly in random folds on the unresistant end of the loaf.

Because of the mechanical problems, use of polyethylene for bakery packaging has lagged until recently. With total use of polyethylene film for bagging and hand wrapping bakery products estimated at only 3,000,000 lbs. in 1958, the portion represented by roll-stock film for automatic bread wrapping was considered so small that it was not even broken down in the over-all figures. There are 41 million loaves of bread produced per day and the average wrap requires a sheet 16 by 18 inches.

Just within the last few months, however, the significant technical advances achieved by leading packagers and film and machinery suppliers have increased optimism to the point where the current rate of annual use of polyethylene for automatic



bread

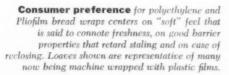
bread wrapping alone is estimated by one major film supplier to be 5,000,000 lbs. and the prediction is for 20 million pounds by 1962. This would be one-third as large as current consumption of polyethylene film in fresh-produce packaging—which is presently the area of its largest market.

Why the growth

Here are the recent developments in this field which support this prediction:

1. Materials suppliers have tightened previously loose gauge tolerances, standardized on the most workable film types and thicknesses, devised new paper and labels employing special low-melting adhesives and developed successful conversion kits for many packaging machines built originally for the handling of waxed paper and cellophane.

2. Machinery men, too, have come up with good conversion kits and have even bettered those expedients with new machines capable of running any of the paper, plastic or cellulosic wrapping mate-





LOW-DENSITY POLYETHYLENE

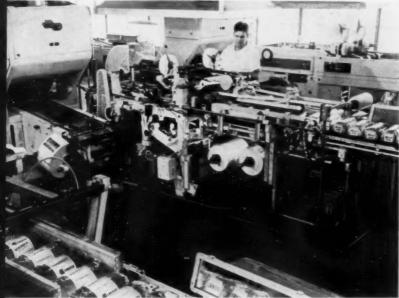


MEDIUM-DENSITY POLYETHYLENE



PLIOFILM

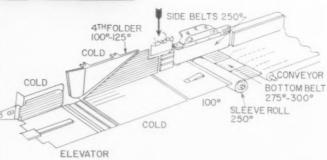
Attachments to adapt existing machines to thermoplastic films



Special folding and heat-sealing devices are required for successful handling of even medium-density polyethylene film. In this installation at New England Bakery, Pawtucket, R. I., plastic sleeves are used on high-friction and sealing surfaces to increase slip. Belt-covered sealing plates and a chilling section apply firm end seals on Vienna bread (Pollock attachment on AMF machine).

PHOTO COURTESY EASTMAN CHEMICAL

featured in this basic attachment for converting standard wrappers to polyethylene. As loaves move from left to right, limp thermoplastic film is folded with aid of tucking mechanism (arrow), then pre-heated and longitudinally sealed by two revolving belts (right) in base plate. End seals are made by upright side belts, rapidly chilled by plates bordering exit conveyor.

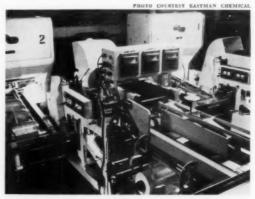


rials now used for bread. One new machine reportedly increases wrapping speed to 75 loaves per minute in comparison with the standard production rate of 45 to 60 loaves per minute.

3. Bakers have set their own houses in order, utilizing tighter control techniques and better training of machine operators to assure trouble-free running of thermoplastic films.

With these improvements, bakeries that dropped such films after a brief trial—and others that never switched after hearing rumors of film difficulties—are now turning to polyethylene and, lately, to rubber hydrochloride film (Pliofilm) in order to achieve the merchandising advantages which both of these films are said to offer, according to national suppliers of bakery-packaging materials.

At present, the swing seems to be mainly at the expense of cellophane—previously used for many specialty breads and for standard white loaves in



Extra-sensitive controllers are a must for sealing polyethylene and an aid in sealing any thermoplastic. An additional solution to sealing and other problems of machinability is the use of a thin Pliofilm on wrapping machines that have been specially modified for thermoplastic films, as in this installation at Freihofer Baking Co., Philadelphia. Soft, transparent Pliofilm has a relatively wide heat-sealing range, thus minimizing critical machine adjustment (Pollock attachment on AMF machine).

some areas even though it is more costly than polyethylene. Plastics suppliers predict that eventually the lowest-cost thermoplastic films will compete favorably, costwise, with waxed paper.

Advantages of thermoplastics

Why use a thermoplastic film for bread at all?

Despite disagreement on the importance of this factor, leading bakers assert that the soft and "warm" feel of thermoplastic films connotes freshness in the minds of consumers when they handle the wrapped loaves. It is now felt by many that this point is even more important than transparency, at least on standard white bread. Sales tests reported by both suppliers and makers have shown increased sales ranging from 1 to 10% after switching from cellophane to polyethylene. This gain, in large part, is attributed to the softer "feel."

Advantages of transparency and surface gloss cannot be ignored, though. The Continental Baking Co. reports that most bakers now using polyethylene employ a chill-roll-cast, medium-density film that provides sparkling clarity and at the same time enhances mechanical handling because of the increased stiffness inherent in this film. However, lower film cost has led a few users—notably A&P in its Springfield, Mass., test market and Cushman Baking Co., Portland, Me.—to stick with low-density, softer polyethylene film materials, despite their greater problems of machinability.

Some claim that polyethylene and Pliofilm have superior barrier qualities, tending to retain moisture in the bread and to retard staling. However, such experienced bakeries as Anderson Baking Co., Warren, Pa., do not extend normal distribution periods. Officials at this company note that staling is primarily a chemical reaction and that it is easy for bread to stale in home storage if distribution periods are stretched. But thermoplastic film wraps are credited with reducing stale returns—bread sent back from the store on the second day. And since such losses are high—seldom less than 5% and often more than 10%, according to one major supplier—a 50% reduction through use of the barrier wraps can double a baker's profit.

Ultimately, the major attraction of the thermoplastic films for any overwrapping job should be cost saving. Many bakers have not yet had a true comparison of packaging-material costs. Polyethylene proponents claim that, for the wrap alone, it is not only competitively priced with the best breadwrap grades of waxed paper, but actually costs less in several gauges and densities (see chart below).

However, this is not the whole price picture. Outer or inner bands are not needed on waxed-paper wraps—which can be completely printed—but they are desirable with transparent wraps to provide a billboard surface. Bands are used today on about 80% of the loaves wrapped in any transparent film. They generally range from $5\frac{1}{2}$ to 9 in. wide

BREAD-WRAP COST COMPARISON						
Material	Grade	Thickness	Wrap cost per 1,000 loaves (16 by 18 in. sheet)	Band cost per 1,000 (5½ to 9 in.)	Total materials cost (including \$1.10 for end labels) per 1,000 loaves	
Waxed paper (printed)	Bread-wrap grade		\$7.80		\$1.90	
Polyethylene ¹	Low density	1 mil	4.99	1	9.19 to 10.89	
Polyethylene ¹	Low density	11/4 mil	6.24	\$3.10 to 4.80	10.44 to 12.14	
Polyethlyene	Medium density	1 mil	6.53		10.73 to 12.43	
Polyethlyene	Medium density	11/4 mil	7.80		12.00 to 13.70	
Rubber hydrochloride (Pliofilm)	65 BG	2/3 mil	8.36		12.56 to 14.26	
Cellophane	300 MST 51		8.51	1(12.71 to 14.41	
Cellophane	300 MST 52, 53 & 54		9.18	11	13.38 to 15.06	
Cellophane	300 K201		10.85	1)	15.05 to 16.75	
Polyethylene with waxed-paper end panels ²	Everfresh	1 1/4 mil, 38 lb.	14.66		15.76	
Cellophane	300 K202		11.69	\$3.10 to 4.80	15.89 to 17.59	

Sources of costs:

Visking Co.

Wisking Co.

Milprint, Inc.
All other figures, Pollock Paper Corp.

Now, all-purpose wrapping machines facilitate





Reversible heat-sealing plate is outstanding feature of new machine for polyethylene, now installed at Kroger. The mechanism (photo, right), which makes a longitudinal seal on all wrapping materials, has special rollers installed in an aluminum frame that can be flipped to provide a flat, heated surface for bottom sealing of cellophane or waxed paper (National).

and are a substantial factor in boosting present total cost of polyethylene bread wrapping (using medium-density film) 20 to 40% above that of waxed paper, according to a major bread-wrap supplier who sells both film and waxed paper.

Based on this supplier's price list, in film cost alone 1-mil medium-density polyethylene is less expensive than any other easily machinable transparent wrap—about 14% less than Pliofilm and roughly $14\frac{1}{2}\%$ less than the least-expensive grade of cellophane. And even the $1\frac{1}{4}$ -mil thickness of medium-density polyethylene film, which some experts in the bakery field advocate, is slightly less expensive than the other transparent materials and is also easier to handle, thus giving production savings.

By far the most economical transparent wrap, of course, is low-density polyethylene—which as an unprinted wrap in 1-mil gauge can undercut printed waxed paper by 36%, according to a large film producer. However, machinability is still a drawback in this material, many bakers report, and the additional cost involved in applying a printed band may knock out the price advantage.

Precautions with thermoplastics

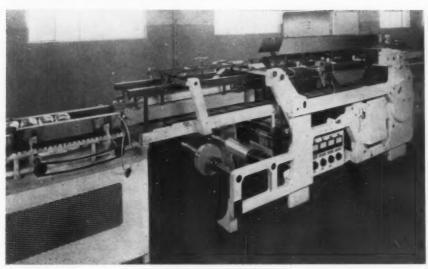
To facilitate mechanical advances in the automatic wrapping of bread—as well as many other food and non-food products—the variability of the product must be taken into account. Bread loaves may vary as much as 2 in. in diameter and widely fluctuate in degree of softness during different seasons of the year. Since, for successful sealing, polyethylene requires close control of pressure and dwell time, as well as temperature, variations in density and size of product can upset the finest machine adjustments.

Also, the use of either an outer or inner band on the loaf produces two difficult sealing conditions on the bottom seal: (1) film to film near the ends of the loaf and (2) four layers of film and paper in the center. Special sealing techniques are often necessary to circumvent these difficulties—the most common being long, low-heat sealers or tandem sealers.

Random folds of film on the end seals of the loaves are seldom identical and heat must be driven through as many as five layers to produce a firm seal without melting the film to the extent that pinholes are formed—a problem that has plagued packagers of paper products and textiles, too.

To date, heat sealing on the ends of bread loaves wrapped with polyethylene is not practical without the aid of oversized end labels, according to bakers now using polyethylene. Even the glue on these end labels is now special, too, having been recently modified with new thermoplastic formulations that melt below the temperature of the polyethylene film.

sealing of thermoplastics



Heated bars in a link conveyor distinguish this special wrapper for polyethylene in use at Van de Kamp's, Los Angeles. Mechanism makes bottom seal on wrapped loaves. End seals—as with most machines—are made by heated belts, then chilled (left) by refrigerated plates (AMF).

Special folders and film carriers, and sometimes pre-heating techniques employed for both the film and the end labels, will help guide the limp thermoplastic films and speed heat penetration, as well as improve the integrity of the final package.

It should be noted that one solution to the endsealing problem has been the combination wrap a large polyethylene center panel with narrow strips of waxed paper laminated on either edge—which permits use of standard machine folders and standard waxed-paper sealers. This material, while relatively high in cost, has won considerable acceptance, according to a supplier (Milprint), particularly for extra-long loaves of bread, which require extra strength in the wrapping material.

The question of polyethylene film gauge is mainly a matter of experience. Continental Baking, A&P and others have proved that it is possible to run on 1-mil medium-density film and obtain a good package with a low rate of rewraps. But many experts advise bakers to start out with 1½-mil film until they get the feel of handling thermoplastics.

Other transparent films

The use of Pliofilm in bread wrapping is relatively new and gaining. Its higher cost in comparison with polyethylene is justified, in the opinion of those who are using it, due to ease of sealing with less-critical machine adjustments. The new breadwrap grade is only 2/3 of a mil in thickness, but is said to have adequate strength, excellent gloss and transparency, and the desirable "soft" feel. It reportedly runs well on machinery containing polyethylene-sealing attachments.

Bakers using Pliofilm, such as Dugan Bros., Inc., New York, reportedly have found it more uniform in gauge than some polyethylene sold for bread wrapping in the past. The supplier attributes gauge uniformity to the casting process, which holds variation of thickness within ±5%. This is a critical factor in successful sealing of thermoplastics.

However, many polyethylene-film manufacturers have been quick to select film resins that produce a more machinable film and to correct excessive variations in gauge. Thus, it is now reported possible to obtain from some suppliers polyethylene film with thickness also controlled within $\pm 5\%$, as against the polyethylene industry standard of $\pm 20\%$. This is a significant advance, important, of course, to all wrapping operations, but particularly to those having many-layered seals.

Bakers are being cautioned to demand uniformity of gauge, at least while they are learning to handle thermoplastics, and to ignore less dependable cut-rate films until they have had more experience in their use. [Continued on page 191]





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PACKAGING PAGEANT

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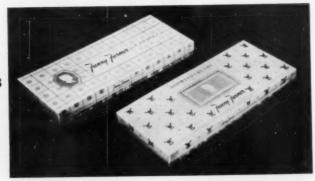
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10



- 1 New gift bags of metalized polyester film reportedly have helped double the sale of Cresta Blanca Wine Co.'s champagne. The flexible bag is comprised of clear polyester film laminated with a gold solvent and printed. A metallic yarn cord completes the package, which won two awards in the recent National Flexible Packaging competition. Bags, Dow's Dobeckmun Co., Cleveland, using Du Pont Mylar. Lurex metallic yarn, Dow Chemical, Cleveland.
- 2 A year of research went into developing The Borden Co.'s new appetite-appeal ice cream and sherbet cartons. Full-color photography of product against decorator background colors tying in with product flavors is used for the 11 different products in half-gallon and pint rectangular and round containers. Cartons, Bloomer Bros., Newark, N. Y.; Fibreboard Paper Products, San Francisco; Sealright, Fulton, N. Y.; Standard Packaging's Fonda Container Co., St. Albans, Vt., and Bradley-Gilbert Folding Box Div., Louisville, Ky.
- 3 Greatly increased sales of Yorkshire tobacco are reported by Johnson Tobacco Co. since introducing this new smoker's-set gift package—a set-up box combined with a transparent thermoformed plastic lid drawn from 0.020-in. cellulose acetate butyrate to a depth of 3 in. It holds a Dr. Grabow briar pipe with a free bonus of Yorkshire tobacco. Thermoformed lid, Plastofilm, Inc., Wheaton, Ill. Set-up box, Congress Paper Box, Chicago.
- 4 AMF Amflite bowling balls are now individually packed in re-usable polyethylene bags that protect the balls from chafing and scratching against their paperboard shipping cartons. The film enhances display and allows serial number and trademark to be seen without directly handling the ball. Bag,

Tower Packaging, Skokie, Ill. Film, Rexall Drug's Chippewa Plastics Co., Chippewa Falls, Wis., using Eastman's Tenite polyethylene.

- 5 Injection-molded polyethylene handles on 25-lb. sewn multiwall bags of granulated salt, Watkins Salt Co. reports, have met with favorable consumer reaction. The sturdy plastic handle is sewn into the top of the bag, under the tape, during the ending operation. Filling and closing are done in the usual way. Bags need no special handling; the handles lie flat during filling, stacking, palletizing and shipping. Bags, St. Regis Paper, New York.
- 6 Features of five-pack laminated pouches for Alles & Fisher's "J-A" brand cigars include: die-cut hole at top for hanging on wire racks and tear-string opening. The four-color-printed pouch is constructed of 0.00035-in. foil, thermoplastically mounted to 25-lb. pouch paper to 1-mil polyethylene. Pouch material, Continental Can's Flexible Packaging Div., Mt. Vernon, O. Form-fill-seal machine, Bartelt Engineering, Rockford, Ill.
- 7 A "piggy-back" carton holding two extra bottles of Squirt is attached to a regular six-bottle carry carton for a two-bottle free offer with each purchase in supermarkets of six of the bottled drinks. This promotion followed a two-bottle carton give-away at check-out stands with a two-cent-per-bottle deposit. Cartons, Mead Packaging, Atlanta, Ga.
- 8 Fanny Farmer, in offering its candies for the first time through outlets other than its own retail shops, selects stylized white and pastel-colored box wraps to continue familiar "home-kitchen" identity. A cameo replaces former Fanny Farmer portrait. All varieties are overwrapped in polymer-coated cellophane. Design, Josephine Von Miklos, Pound Ridge, N. Y. Boxes, E. E. Fairchild Corp., Rochester, N. Y. Cellophane, Olin Mathieson's Packaging Div., New York. Semi-automatic wrapping machine, Scandia Packaging Machine, North Arlington, N. J.
- 9 Ribbed aluminum-foil containers similar to those used in the food industry have been adapted as a bulb-starter package by the seed industry. Calcades Corp. merchandises narcissus, daffodil and orchid bulbs in the gold-colored foil containers fitted with a paperboard cover and snap-on plastic lid. Container, Ekco-Alcoa Containers, Wheeling, Ill.
- design give a rich appearance to Durkee's Gay-ettes cake decorations, product of the Glidden Co.'s Durkee Famous Foods Div. Nine different varieties are packaged in the new 2½-oz. jars. Jars and lithographed metal closures, Continental Can's Hazel-Atlas Glass Div., Wheeling, W. Va. Paper labels, Oak Printing Co., Cleveland.



These, too, have gone modern!

Because their competitive situation now demands packaging
with maximum convenience-in-use,
pourable dressings are swinging over, fast, to the ¼-turn Twist-Off

In the snowballing movement to modernize glass pack sealing, the dressings-and-vinegar group are now showing up very prominently. Brand after brand, in a steady parade, has been turning to the Vapor-Vacuum ¼-turn Twist-Off.

On these two pourable commodities, the quick-action Twist-Off has particular appeal. Here, the way the package is used makes cap convenience especially important. Opening and re-sealing are extra-frequent. Hence, easy opening and closing are a powerful factor in consumer reaction to the package.

Ever since Twist-Offs for dressings first became available, shoppers have been growing more and more conscious of the convenience of this cap. They like it—and they want it!

From the packer's standpoint, there's every reason to go along with this growing consumer preference. The Twist-Off is a true Vapor-Vacuum Cap, with all the long-term power of the Vapor Vacuum seal to protect the delicate flavor and aroma of each packer's carefully developed formulations. And, like all Vapor-Vacuum Caps, the Twist-Off is highly efficient and economical on the packaging line, too.

So the modernization movement in dressings and vinegars keeps on surging ahead—with packers, merchandisers, and consumers all benefiting by it.

"VAPOR-VACUUM"
Seal and Re-Seal

WHITE CAP COMPANY

DIVISION OF CONTINENTAL @ CAN COMPANY

4-60





The continuous

GREAT
PACKAGING
DISCOVERIES—13



THIS MONTH'S COVER

By combining
simple forming and
heat-sealing techniques,
the pillow-pouch machine
made possible
fast, automatic packaging
of a wide variety
of free-flowing products
in films
and flexible laminates

The story of the continuous pouch-package maker is the story of an ex-elevator engineer who devised and shepherded the machine through the exigencies of both peace- and war-time packaging development. The first form-fill-seal pouch machine, which automatically transformed a flat web of cellophane film into a filled and sealed bag-type package was, intrinsically, a simple folding and heat-sealing device that has nevertheless changed the packaging techniques and merchandising patterns of innumerable businesses.

In recent years, the number of companies producing and using this type of packaging equipment has multiplied until today it is estimated that more than 2,000 pouch machines by more than a half-dozen manufacturers are in use for hundreds of products, ranging in size from a few grains of silver dental alloy and hypodermic needles to toys and even several pounds of potatoes. From handling only cellophane, this versatile machine has been broadened to accommodate virtually every type of film and lamination imaginable.

In 1932 the top management at Henry Heide, Inc., in New York was faced with depression headaches and a need to tighten costs, and sought a faster, more economical way to bag unwrapped candies. The problem was turned over to Heide's chief engineer, the late Walter R. Zwoyer, who had recently gone to the candy firm from the Otis Elevator Co. In a matter of months this ingenious engineer and his staff devised a pouch-packaging machine of such excellent design that it has remained virtually unchanged in basic mechanical details to this day. The first unit was put into operation at Heide on Jan. 1, 1933.

Familiar as it is today, the principle of a machine that would fill multiple units of a product into a flexible tube continuously formed, filled, sealed and cut off was revolutionary and distinct from the earlier invention of the continuous strip or unit pack (see *Great Packaging Discoveries*, Dec., 1959, p. 116), which was intended for single-dose or single-use quantities of product.

In operation, the original vertical, twin-head machine simply folded a web of cellophane over an inverted, triangular forming plate, creating a tube with overlapping edges that could be longitudinally sealed. Zwoyer originally in-

Inventor, the late Walter R. Zwoyer (right), looks over the pioneer battery of pouch form-fill-seal machines installed at Henry Heide, Inc., New York, where they were developed to package unwrapped hard candies automatically.



pouch packager

tended to glue the long seam, but the availability of heat-sealable cellophane in volume induced him to employ heat sealing before the first machine was built. This month's cover design shows the principle, graphically simplified. The product was dropped from a rotary cup feeder into the film tube through a central, hollow metal core. Packages were sealed with hot jaws and cut from the web by a reciprocating knife. Patents were granted in January, 1935.

Immediately sensing the importance of this machine to the whole packaging field, Zwoyer and Julius and Herman Heide (two of the four brothers in the candy firm) in mid-1934 incorporated a separate company, called the Transparent-Wrap Machine Corp. Several machines were built at Heide and sold to other packagers—the first such outside unit going to National Candy Co., Chicago, for one-cent candies. In the same year Zwoyer granted licenses for the manufacture and distribution of the machine, which became famous as the "Transwrap," to Stokes & Smith Co. (U. S. territory) and Baker Perkins, Ltd., (England and the Continent). Stokes & Smith took over actual building of machines on its own account and for the Transparent-Wrap company.

This arrangement lasted 10 important years, during which use of this machinery spread to many industries. The key mechanical improvements that were developed during this decade were as important as invention of the basic machine.

One of the first of these devices was an auger filler, devised by Stokes & Smith. Also, by 1937 Zwoyer had a registration device, one of the first electric eyes used in packaging, that enabled the machine to cut off printed cellophane. And in 1939 a Transwrap machine was built to run Pliofilm, the first step toward utilizing a wide variety of packaging materials.

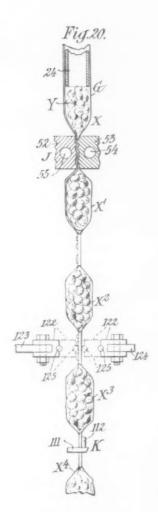
World War II was the biggest development period of all. With Pliofilm almost unobtainable and cellophane scarce, Zwoyer and engineers from Stokes & Smith adapted their machine to paper and glassine webs and available combinations of foil, paper and acetate for a four-side-seal fin-type package.

After the war, new attachments came fast: net-weight and piston fillers for solids and liquids, new types of vibratory and pocket fillers, imprinters for on-machine coding and product identification, bucket-elevator feeds for ground-level loading and weighing, and gusseted pouches for more capacity.

At the peak of success, however, troubles between Transwrap and Stokes & Smith introduced a hitch. In a famous legal battle that eventually reached the U. S. Supreme Court, the agreement between the two companies was ended in 1947. Under a new arrangement, Stokes & Smith continued to manufacture the machine without exclusive distribution rights. Shortly thereafter, Stokes & Smith became a division of Food Machinery & Chemical Corp. and marketed the machine under the new name, "Stokeswrap." Transparent-Wrap Machine Corp. built its own manufacturing plant in Hasbrouck Heights, N. J.

After 20 years in the pouch-packing business, Zwoyer and his Heide associates in 1954 sold the Transwrap patents, name and company to Package Machinery Co. This change sparked yet another legal battle, which ended with the entrance of Hayssen Mfg. Co. into the pouch-packaging machinery business.

Today most of Zwoyer's early patents have expired and there are many varieties of pouch-packing units on the market. Machines range in size from one to six tube-forming heads; several units form pouches in a horizontal plane, and a new machine even operates at a 45-deg. angle to handle heavy produce items. Speeds range from 35 to 75 pouches per minute per head. Only recently pouch formers were adapted to potato chips, frozen foods, cake mixes and film-packed "ices"—new proof of the versatility of this packaging technique.





Patent drawing for prototype and typical output of modern continuous pouch packagers. Sketch shows heat sealers (J) and reciprocating knives (K).

Award-winning folding boxes

Imaginative features and product visibility distinguish

100 selections in annual competition of Folding Paper Box Assn.;

judges cite modern design, bold color, abstract art

inners in the Folding Paper Box Assn. of America's 1960 competition, just announced at the association's annual meeting in Los Angeles, reflect continued progress in imaginative new folding-carton treatments. Thirty "first" awards were given—three more than in 1959—and 70 merit awards were made, three less than in '59. Where last year's first awards went principally to conventional-type boxes, the 1960 winners are predominantly distinctive and even "off-beat." The majority have windows or other product-visibility devices. Many are of unusual shapes and sizes.

While carton re-use potential is less evident among entries this year, there is a tendency toward box designs tied in with special display racks or stands. Foil is much in use. And while quite a few cited cartons have a quaint or whimsical flavor, the antique type of design so prominent last year is missing from the 1960 roster of prize winners. The 19 judges were drawn strongly to modern designs using bold color and abstract art.

In printing quality, letterpress was reportedly somewhat disappointing, while other processes showed big advances. No first awards were given this year for multicolor or color-process letterpress because none of the entries met the judges' standards. Lithography and gravure, on the other hand, each merited dual first awards. It is likely that these printing categories will be split in the future to provide more first awards; four firsts are now available to letterpress.

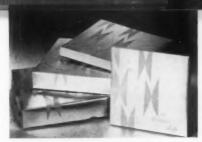
Among product categories, hardware packaging showed remarkable improvement. This category drew a total of three firsts and five merit awards far more than in the past. Hardware is obviously getting considerable packaging attention and results

Double award winners Dual prize. Sprightly Santa Claus designed for Neiman Marcus cheered judges so much that it took first prizes for best potential new-volume use among retail boxes and general merchandising superiority. Letterpressprinted carton is basically a flat folder for small carry-home items. When side panels are tucked in, enough tension is produced to hold concave shape. Carton, Pollock Paper Corp., using Champion Paper's Kromekote.

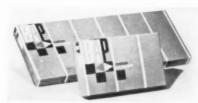




Cited twice. Copper-toned packages for Armour sausages merited two awards by judges: superiority of gravure printing and food merchandising superiority. This carton adroitly uses printed foil to attract shopper attention and accentuate product quality. Carton, Chicago Carton Co., using foil-laminated solid bleached sulphate with white opaque greaseproof liner.



One-color letterpress. Printed in purple ink on foil, these retail boxes for The Frances Shop are produced in six different sizes with only one printing plate. Judges like evenness of large, solid areas and clean type. Carton, Western Paper Box Co., using 0.018 mat-finish silver-colored foil-laminated board.



Two-color letterpress. Excellent presentation of brilliant contrasting colors on inexpensive board is achieved by these black, white and orange cartons for British Auto Parts. There is no bleeding of orange into white and no evidence of foreign matter in the printed surface. Carton, Western Paper Box Co., using vat-lined board.

FIRSTS

for
superiority

of
printing



Flexography. Ultra-smooth color combined with low price makes this carton for Parrot Potato Chip Co. outstanding, judges decided. Carton, B. F. Nelson Mfg. Co., using three-color flexography on 0.20 bleached manila hoard.



Gravure—dual winners. One of two winners in this category is Brown & Williamson for its cigarette cartons. Sharing gravure honors are packages for Armour sausages (see facing page). Solid colors of Viceroy and Kool cartons are very smooth; registration is excellent. Carton, Gardner Div., Diamond National Corp., using solid bleached sulphate; design, Frank Gianninoto & Associates.





Lithography—dual winners. Both solid areas and bluish halftone formation are well done in B. F. Goodrich's two-color lithographed carton for rubber water bottle for babies (upper photo). For multicolor lithography honors, judges selected the carton for Dressel's confections (lower photo). The design calls for large solid red areas with reverses. This is high quality, as is process work on the carton back. Goodrich carton, Gardner Div., Diamond National Corp., using Diamond-Glo solid newsback; design, Smith, Scherr & McDermott. Dressel's carton, Waldorf Paper Products Co., using 0.017 solid bleached sulphate; design, Joseph R. LaViolette.

are beginning to show—for the industry as a whole, as well as for individual packagers.

Two win two firsts

While none of the entries took three firsts, as did Maidenform's pop-up bra package last year, cartons for Armour sausage and a retail box of Neiman Marcus took two firsts each—Armour for gravure printing quality and food merchandising superiority, Neiman Marcus for a retail box with potential new-volume use and for merchandising superiority. The ingenuity and attractiveness of the retailer's box made it one of the hits of the competition.

All was not sweetness and light, however. The judges were extremely critical of cosmetic packaging. They believe it to be the one packaging category which can afford to go "all out" for glamour and allure, and yet the entries, in their opinion, did not take advantage of this opportunity. Several cosmetic cartons were adjudged durable, relatively handsome and protective—enough for merit awards. But there were no cosmetic firsts. Soaps and detergents again went without a first award. (Last year the judges rapped sharply the "slavish imitation" in soap and detergent packaging.) Bakery products, first in all classes last year, got no awards this year.

Toy packaging was also singled out this year for a brickbat from the judges. They consider most toys "poorly, cheaply and unimaginatively" packaged.

Awards of merit

In addition to the 30 first awards (all illustrated here) judges voted 70 awards of merit as follows: Technical superiority of printing. Best Letter-



This letterpress-printed carton for Tidy Cat sanitary material can be quickly converted into a greaseproof, moistureproof tray for use with the product it contains. Box breaks open along center perforation, forming a flat tray twice as large as original carton. Judges considered this an especially ingenious construction job. Carton, Crowell Carton Div., St. Regis Paper Co., using 0.030 white patent-coated kraft laminated to 25-lb. greaseproof payer.

press Printing, One Color: Polka Dot gift set for Callaway Mills, Inc., box by Nevins Co. Fasteners for Parker-Kalon Div., General American Transportation Corp., box by Federal Carton Corp.

Best Letterpress Printing, Two Color: Tapers for Elk River Candle Co., box by Continental Paper Products Div., Packaging Corp. of America. "Thanks" Bra for Warner Bros. Co., with box supplied by Warner Bros. Co. Best Multicolor Letterpress Printing: Children's shampoo for John H. Breck, Inc., box by Sample-Durick Co., Inc. Gift towel ensemble for Sears, Roebuck & Co., box by Paper Package Co., design by Allen Carr Studios, Inc.

Best Color-Process Letterpress Printing: P-38 lightning twin-engine airplane for Wen-Mac Corp., box by Flintkote Co.

Best Flexographic Printing: Retail dry goods for City of Paris, box by Andre Paper Box Co.

Best Gravure Printing: Christmas retail cartons for Montgomery Ward & Co., box by Robert Gair Paper Products Group, Continental Can Co.



Food. Several meat packers are using this new-type bacon package with full-seal ends and slide-out tray. However, judges chose this Dubuque Packing Co. example for a first award in the hope it would encourage more packers to modernize their bacon cartons. Lithography was also considered excellent. Carton, Dubuque Container Div., St. Regis Paper Co., using solid bleached sulphate; design, Raymond Loewy.



Hardware. This American Saw & Tool Craftsman blade package opens like a book and will stand alone. Perforations through center enable blades to be sold separately. Blade teeth show clearly without the potential hazard of removal from package. Carton, Bradley-Gilbert Div., Standard Packaging Corp., using 0.024 machine clay-coated kraft.



Miscellaneous. These plantersimulating cartons for Judson Nursery can display both potted plants and plastic containers. They encourage related-item sales. Judges felt the idea well suited to supers and variety stores as well as florists. Carton, Wayne Paper Box & Printing Corp., using 0.024 white clay-coated newsback.



Display. Using a slotted display, Paper-Mate gets the pilferage protection of carding with the effectiveness of a closely grouped mass display. Cards fit vertically into slots, to show pens only. Cards are not too large to prevent customer testing. There is also room to display refills, a big impulse item. Display, Robert Gair Paper Products Group, Continental Can Co., using 0.020 solid bleached sulphate; design, Bert Ray Studios.

Best Lithographic Printing: Aluminum foil for Mirro Aluminum, box by Container Corp. of America. Early Times Christmas gift carton for Brown-Forman Distillers Corp., box by U. S. Printing & Lithograph, Div. of Diamond National Corp. Feminine syringes for B. F. Goodrich Co., box by Gardner Div., Diamond National Corp., design by Smith, Scherr & McDermott. Old Style beer for G. Heileman Brewing Co., box by Container Corp. of America. Chocolate cake for Rose Royal Cheese Cake Co., box by Lord Baltimore Press.

Best Construction. Bayer Aspirin for Glenbrook Laboratories, Div. of Sterling Drug, Inc., box by Container Corp. of America. Christmas tree ornaments for Max Eckardt & Sons, box by Alford Cartons, design by Russ Sweet Studios. Cytoxan for Mead Johnson & Co., box by Paper Package Co. Feminine syringes for B. F. Goodrich Co., box by Gardner Div., Diamond National Corp., design by Smith, Scherr & McDermott. Eleven-ounce beer cans for Lucky Lager Brewing Co., box by Container Corp of America, design by Walter Landor Associates. Smoked sliced turkey breast for Northland Farms, box by John Strange Carton Co., design by

Hudson-Wolter & Associates, Inc. Cotton Balls for Q-Tips, Inc., box by Robertson Paper Box Co., Inc., design by Robert Zeidman Associates. Shoes for J. C. Penney Co., box by Gardner Div., Diamond National Corp.

Best Potential New-Volume Use. Medicinal Products: Hot-water bottles and syringes for B. F. Goodrich Co., box by Gardner Div., Diamond National Corp., design by Smith, Scherr & McDermott.

Food: Baby food for Birds Eye Div., General Foods, box by Container Corp. of America.

Hardware: Electric-light bulbs for Sylvania Electric Products, Inc., box by Robertson Paper Box Co., design by Anthony S. DiPietro.

Textiles and Apparel: Infant shoes for Moran Shoe Co., box supplied by the Gardner Div., Diamond National Corp.

Miscellaneous: Watches for General Time Corp., Div. of Westclox, box by Crowell Carton Div., St. Regis Paper Co.

Merchandising Superiority. Medicinal Prodducts: Benadryl expectorant for Parke, Davis & Co., box by Robert Gair Paper Products Group, Continental Can Co., design by Lebeau Studios. Cotton



Medicinal products. Lever Bros.' Stripe carton incorporates a ball-pen premium without distorting or increasing shape of carton. Judges considered this method of attaching a premium to be clean, pilferproof, helpful to easy retail handling and display. Pen pocket has a corner window of acetate to show premium. A stop holds pen snugly in place. Carton is suited to automatic packaging because pen compartment opens to filling position as carton is set up. Carton, Shuttleworth Carton Co., using 0.018 machine-coated newsback. Design, William B. Crane Co.

Textiles and apparel. Two-piece cartons for Hanes layette items have a pocketbook shape and a handle for display on special racks. Sliding inner tray allows easy shopper inspection, but does not slide out of the hung carton because of the sloping sides. Each set of products has its own illustration and nursery-rhyme parody using the Hanes name. Carton, Atlanta Paper Co. Div., Mead Packaging, using International Paper's solid bleached kraft Mosscoat; design consultant, Cox, Kjeldsen & Parker.



negation JET market

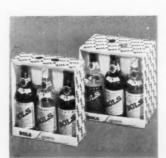
Sporting goods and toys. Combining folding carton and acetate bubble, this Victor Stanzel Co. model-plane package protects product while retaining maximum sales impact. Inserts holding propeller and parts in place are cut from board displaced by the bubble, which helps keep costs down. Carton, Magnolia Carton Co., using 0.024 white patent-coated, gloss-treated board.

FIRSTS
for
potential
new-volume
use



Paper products. Lily
Tulip's promotional sampler
for sundae cups is golden
foil. Jewel-box shape ties in
with product name, "Party
Gems." Judges thought the
idea a good one, adaptable to
other types of promotions.
Carton, United Board &
Carton Corp., using 0.018
foil, manila back.

FIRSTS for merchandising characteristics



Carriers. In judges' opinion, these striking carriers for Bols liqueurs encourage multiple sales for a product usually bought singly. They also give visibility coupled with protection and add impact to the brand name by using it boldly as a design element. Cartons, Consolidated Paper Box Co., using 0.024 white clay-coated board; design, Howard Blonder.





Hardware—dual awards. Reflecting the marked improvement in hardware packaging over-all, the judges gave two first awards in this category. First is the cleverly designed carton for Schacht Rubber's carpet protectors (photo at left, above) which has a partially open bottom and sides for visibility. The other winner, a carton for Attwood Brass Works boat fittings (right, above), was deemed to project excellent corporate identity and a quality image. Schacht carton, Flashfold Box Corp., using 69-lb. kraft; design, Lincoln Engravers. Attwood carton, Crowell Carton Div., St. Regis Paper Co., using 0.024 white patent-coated kraft.



Textiles and apparel. Beautiful colors contribute to the quality appearance of these letterpress-printed cartons for Fawn Fashions' baby pants. They are displayed on a special rack. Carton, Atlanta Paper Co. Div., Mead Packaging, using S. D. Warren Co.'s Luster Board; design consultant, Doris Pinney.



Beverages. The illustration on this carton for Jim Beam crystal whiskey exactly duplicates the decanter inside. The carton's embossed surface, rich black background color and effective design elements convey a feeling of luxury which judges found alluring. Carton, Robert Gair Paper Products Group, Continental Can Co., using 0.028 white clay-coated newsback.

Balls for Q-Tips, Inc., box by Robertson Paper Box Co., Inc., design by Robert Zeidman Associates. Rubber syringes, breast pumps and aspirators for B. F. Goodrich Co., box by Gardner Div., Diamond National Corp., design by Smith, Scherr & McDermott,

Cosmetics and Personal Accessories: Nail enamel for Revlon, Inc., box by F. N. Burt Co., Inc. Fresh for Pharma-Craft Corp., box by F. N. Burt Co., Inc. Shampoo for Procter & Gamble Co., box by Richardson Taylor-Globe Corp. Nair for Carter Products, Inc., box by Container Corp. of America. Drene for Procter & Gamble Co., box by United States Printing & Lithograph Div., Diamond National Corp.

Soap: All for Lever Bros. Co., box by Ohio Box-board Div., Packaging Corp. of America.

Food: Instant whipped potatoes for Gateway Flakes, Inc., box by Robert Gair Paper Products Group, Continental Can Co. Frozen foods for Armour & Co., box by Robert Gair Paper Products Group, Continental Can Co. Canned ham for John Morrell & Co., box by Waldorf Paper Products Co. Instant non-fat dry milk for Sanna Dairies, Inc., box by United States Printing & Lithograph Div., Diamond National Corp.

Bakery Goods: Jetzels for Bachman Bakeries Corp., box by Container Corp. of America, design by Dixon & Parcels. Cookies for Pepperidge Farm, Inc., box by Warner Bros. Co.

Confections: Ice cream for Beatrice Foods Co., box by Chicago Carton Co.

Tobacco: Smoking pipes for Kaywoodie Pipes, Inc., box by Robert Gair Paper Products Group, Continental Can Co., design consultant, DiFranza & Williamson. Life for Brown & Williamson Tobacco



Sporting goods, toys.
Excellent handling of a
hard-to-package item, in
this case Golfcraft clubs,
was the consensus here.
Carton frames the product
dramatically. Its two
die-cut, glued sleeves
become, respectively, a
display easel and a putting
cup. Carton, Barger Box
& Printing Corp., using
0.028 clay-coated newsback;
design, Ted Drake.



Tobacco. Judges called these Van Dyck cartons "an outstanding example of imaginative packaging." They liked the way the Van Dyck bearded man is handled for cover illustration and also the pricing technique, done in reverse on the opening tab. Carton, Lord Baltimore Press, using solid bleached sulphate board.



Display. Paper-Mate wins again. Display is graphically attractive and of extra-sturdy construction. It has a locked-in pocket for display of inkcartridge refills. Display, Container Corp. of America, using 0.024 solid bleached sulphate board.



Miscellaneous. This carton carries an effective illustration of Dow's Saran Wrap in use. Box is strong and has a workable cutting device. Carton, Container Corp. of America, using 0.026 solid bleached sulphate board.



Medicinal products. This Goodrich carton for feminine syringes was judged excellent for both graphics and construction. Cartons are fivecolor lithographed for the top-priced syringes, three-color lithographed for those lower priced. Appealing illustration plus tapered top and easy-access tuck bottom impressed judges. Cellophane window gives some product visibility, although this is played down because of the personal nature of the product. Carton, Gardner Div., Diamond National Corp., using Diamond-Glo solid newsback; design, Smith, Scherr & McDermott.



Paper products. Each of these cartons for Reynolds gift-wrapping paper displays the product through a cellophane window. Each also contains a non-metallic cutting edge to cut off desired length without removing paper from box. Judges especially liked the triangular cartons. Carton, Robert Gair Paper Products Group, Continental Can Co., using 0.020 super-white, patent-coated newsback board.

Corp., box by United States Printing & Lithograph Div., Diamond National Corp., design by Frank Gianninoto & Associates. Cigars for P. Lorillard Co., Inc., box by United States Printing & Lithograph Div., Diamond National Corp.

Hardware: Propane torch kit for Otto Bernz Co., box by Boxboard & Folding Carton Div., Weyerhaeuser Co. Fusible stab-in unit and circuit breaker for Federal Pacific Electric, box by Federal Carton Corp., design by Raymond Loewy. Piston rings for Perfect Circle Corp., box by Richardson Taylor-Globe Corp. Refrigerator parts for Bendix-Westing-house Automotive Air Brake Co., box by Gardner Div., Diamond National Corp. Masking tape for Sears, Roebuck & Co., box by Carton Craftsmen, Inc.

Textiles and Apparel: Bath ensemble for Sears, Roebuck & Co., box by Paper Package Co., design by Nugent-Graham Studios. Electric blanket for Westinghouse Electric Corp., box by Container Corp. of America. Layette gifts for P. H. Hanes Knitting Co., box by Atlanta Paper Co., Div. of Mead Packaging, Inc., design consultant, Cox, Kjeldsen & Parker. Lingerie and ladies' apparel for Van Raalte Co., Inc., box by Coates Board & Carton Co., Inc. Zip-open hosiery folders for Kayser-Roth Hosiery Co., box by Container Corp. of America. Sport shirt for C. F. Hathaway Co., box supplied by Container Corp. of America.

Retail Boxes: Secret Gift Shop for Children Only for Boston Store Co., box by A. Geo. Schulz Co.

Carriers: Special export malt lager for G. Heileman Brewing Co., box by Robert Gair Paper Products Group, Continental Can Co.

Beverages: Wine and [Continued on page 194]

Appetizing illustration conveys instantly what product is for. Wide carton doubles display face.

A package rescues a business

Flav-R Straws, Inc., almost on the rocks when a revamped package and display unit put it back on its feet, now expects to gross \$4 million this year

ness, the company hired a management expert, V. R. Kendall, now president of Flav-R Straws.

Among the first things he did was to take a good look at the package—a narrow carton, such as are used for pencils, with cartoon drawing of a head and a straw that looked more like a picture of a giraffe than a person enjoying a flavored milk drink.

"If you did not know what Flav-R Straws were and how they were used, the old package wouldn't tell you," he said. "The package had no sales appeal. And our price structure was out of line."

Surface design and construction of the package were immediately revamped through recommendations made by the carton supplier and an independent design firm.

Instead of a narrow carton holding two rows of six straws each, the box shape was changed to a broader, flatter box holding all 12 in a single row, thereby providing ample width for an appetizing illustration of a straw in a glass of milk—immediately associating use with brand name and descriptive copy. The new, two-color rotogravure package is being produced with considerable printing economies, too, by (1) restricting all copy changes to the black cylinder and (2) employing a simple wash-up and re-inking of the cylinder that prints the illustration of the glass of milk in the different flavor colors.

A display carton was designed to hold 24 rather than 48 of the packages as formerly—thus requiring a smaller investment per store. A premium offer is made on every box, exploited in newspaper, radio and TV advertising. And the product has been repriced to increase retailer profit from 22 to 25%.

Result: In the first few weeks the new packages were available to supermarkets, the company had up to four and five repeat orders from major chains. Market reports on selected stores indicated a movement of close to one case per store per week, 30 to 60 days before the advertising campaign started.

Supplies and Services: Cartons produced by Downingtown Paper Box Co., Downington, Pa., on Champlain rotogravure equipment. Design by Eron & Eron, Englewood, N. J.

Everybody will agree that the right package is a powerful sales builder, but not often is a revamped package given full credit for salvaging a business.

Yet such is the case with Flav-R Straws, Inc., a small (15 employees), Mount Vernon, N. Y., firm which was on the verge of bankruptcy until a new package and display unit put it back on its feet with a sound grocery item which the firm expects to gross about \$4 million this year.

Flav-R Straws was organized a few years ago to make and sell sipping straws that instantly flavor milk with a flavoring ingredient (chocolate, strawberry or coffee) inside the straw.

Packaged 12 straws to the folding carton, sales at first were tremendous. The company couldn't keep up with orders. Then suddenly—even after a year of extensive advertising—sales dropped to a point where the firm was concerned "whether or not it had a product." In an effort to revitalize the busi-



"Knox gives us low bottle replacement costs, on time delivery," says bottling plant owner

"By keeping breakage at an absolute minimum, Knox Glass soft drink bottles help us to minimize replacement costs — one of the biggest expenses in the bottling industry," reports the owner of one of the largest and most successful cola and flavor bottling companies in the South.*

"In addition to furnishing us quality bottles that will take the beatings our 300-bottles-a-minute lines give them, we've also been very pleased with the dependable service we receive from Knox.

"The local Knox representative always makes a point of checking with us regularly to make sure that our advance-estimated requirements are being met — so we never have less than a full week's supply of glass on hand, winter and summer. Should our needs change, he takes personal charge to make sure we get the right quantity at the right time.

"Knox always has bottles available when we need them — we get delivery by the scheduled date, without any necessity for excuses.

"We can truly say that it is a pleasure to do business with Knox."

Find out more about how Knox Glass can furnish you quality bottles by "a scheduled date, without any necessity for excuses." Contact Knox Glass, Inc., Knox, Pa. or any of Knox's 37 sales offices.

*Name available on request.

 $the \ new/{ t knox}$ glass

Foamed-polystyrene 'coat' cuts damage and costs



Improved protection at a 30% saving in total packaging cost is reported by Allied Chemical Corp.'s General Chemical Div. since adopting a foamed-in-place expanded-polystyrene "overcoat" for 13-gal. glass carboys of mineral acids and other liquid products. The foamed plastic is combined with a wirebound-box overpack to form a sturdy octagonal shipping container that is said to reduce tare weight 40% and to require 30% less storage area than the nailed wooden box formerly used by the company.

Aside from these impressive economy factors, General Chemical reports that its new shipper sharply reduces the incidence of bottle breakage. Because the carboy is completely surrounded by a thick, protective wall of foamed polystyrene, shock is distributed over a much wider area than before. In the packager's former shipper, cushioning was provided only by four rubber or cork suspension points that rested against the bottom and the shoulder of the glass container. "Dylite" expandable polystyrene by Koppers Co., Plastics Div., Pittsburgh 19. Wirebound box designed by Package Research Laboratory, Rockaway, N. J., and produced by David M. Lea & Co., Richmond 12, Va.

COST

Shipping-container refinements achieve major economies



A series of simplifications and refinements has enabled the Lauson Engine Co. to cut shipping-container costs 25% and packaging-labor costs 33% for a line of gasoline engines. The products are delivered to power-equipment manufacturers in compartmented cap-and-tube corrugated shippers.

Container redesign has reduced the number of component parts (including interior packaging) from 44 to 18, for savings in material and set-up time. Costs also have been cut by adopting clip-in caps of polyethylene-coated corrugated to replace a paraffin-coated top sheet for the protection of engine surfaces. To keep up with production demands, the engines must be case packed while their freshly painted surfaces are dry but still warm. Because the paraffin tended to soften and adhere to the engines, Lauson had to develop corrugated collars that projected above each engine. The plastic coating, however, does not adhere to warm surfaces, so the new caps can be fitted flush against the engine tops. Thus, collars have been eliminated and Lauson has been able to reduce shipper height for a further saving in costs. Shippers by Evert Container, 8000 W. Good Hope Rd., Milwaukee 18, using Mead Board Sales' polyethylene-coated board.

New appeal for a power tool, at a 22% saving

Close cooperation between packaging engineer and product designer often is the key to broad new sales opportunities. Consider the case of the American Machine & Foundry Co.'s DeWalt Div., Lancaster, Pa., where such cooperation not only has knocked 22% off the cost of packaging radial-arm power saws, but also has converted a bulky shipping container requiring dealer-to-buyer delivery into a carry-home "shelf item" that is earning its share of display space.

The packager's former radial-saw model was shipped with its arm mounted to the table and projecting upward from the unit's main body. Wasteful of container space, this set-up construction necessitated a large corrugated shipper that could not fit in an automobile trunk. In addition, two men were required to remove the assembled power tool. These problems have been solved by DeWalt's product-and-package redesign. The power saw is now engineered for knock-down shipment, with the result that shipping-carton size has been reduced by one-third. It can now be carried in a car trunk, eliminating truck delivery, and the machine can be set up by the user without assistance, says the company. Shipping carton by Stone Container Corp., 4200 W. 42 Pl., Chicago 32.



CUTTERS

Balfour's plastic packaging slashes costs by 30%

In a switch to molded-polystyrene boxes for a line of jewelry products, the L. G. Balfour Co. of Attleboro, Mass., has achieved major economies in production and shipping procedures that together add up to a 30%-plus saving in over-all packaging costs. This company's experience can be applied by many packagers whose business largely involves small shipments which must be sent through the mails.

Balfour formerly packaged class rings and other jewelry in paperboard boxes and cartons which had to be set up and which required considerable protection to survive the rigors of shipment. Moreover, the diversity of the line necessitated an inventory of 50 different packages. Revaluating its packaging operation, Balfour decided to adopt molded, hinged polystyrene boxes. The company reports that the plastic's strength has reduced the need for individual package protection, resulting in a 50% slash in shipping costs. Labor costs have been cut back because the attractive new containers require no set-up time. Economy also has been achieved by reducing package inventory 75%. Only 12 basic boxes now are needed. Plastic boxes by Diamond Plastic Box, Roanoke, Va., using Monsanto "Lustrex" polystyrene.





Unit packs of powdered bleach and detergent each enough for a single load of laundry—are formed at a new high-volume rate in Sweden of water-soluble polyvinyl alcohol film. Tray-and-sleeve carton carries an eight-pouch supply of product.

pouches at high

With a record packager-plant output
of 120 units per minute,
this Swedish firm employs
modified form-fill-seal machine
to expedite an economical
soluble package of bleach and detergent

Volume production of water-soluble polyvinylalcohol film pouches—at a new high rate of 120 per minute—has been achieved in Sweden, where the firm of AB Henkel-Helios is successfully using a modified pillow-type pouch-forming machine to package a hard-to-handle combined detergent-andbleach powder in this thermoplastic film, which is imported from the United States.

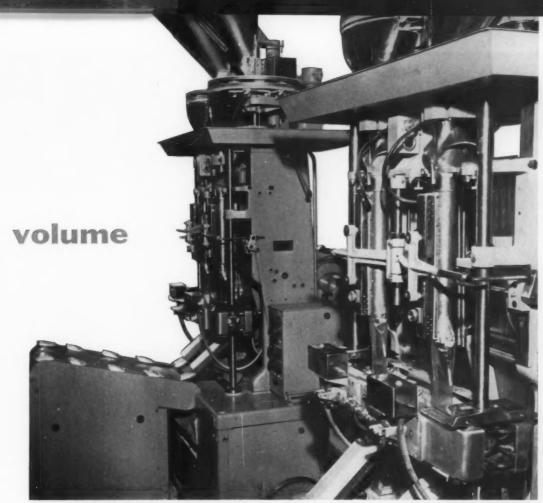
The installation ranks as the largest in any packager's plant for pouch packaging with this water-soluble film. The marketing success of the package in Sweden seems assured with more than 2,500,000 units sold in the first two months of distribution despite a higher price than that for the more conventional type of detergent packaging.

Eliminating such expensive aids as glass-cloth shields and extra-sensitive controllers, frequently used to handle this tricky film, the Stockholm packager uses two twin-head machines equipped with Teflon-coated impulse jaws that quickly form and then air cool the molten seals—modifications that can also be used to advantage to run another thermoplastic film, polyethylene.

Prime advantage of the 2-oz. pouches, used for a detergent called "Tend 65," is that—like their American predecessors*—they eliminate measuring and waste and instantly dissolve in the washing machine.

Key mechanical element in the pouch machine is the cross-sealing section. To reach this stage, roll-fed PVA film is guided over Teflon-coated rolls and formers, and sealed into a tube by a similarly coated resistance-type longitudinal heater. Then, broad heat seals are formed by an impulse sealer that consists of cold jaws, heating bands and a serrated flying knife. The jaws pull down the film and the heating bands are then brought into contact with the film to effect the seal. The knife cuts off the pouch and

^{*}See "Now, Detergent in PVA," Modern Packaging, June, 1959, p. 98.



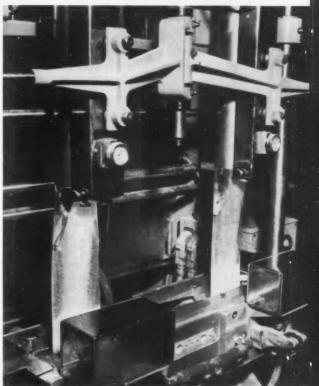
Two pouch formers turn out 120 pouches per minute on four heads (photo, top). Teflon-coated impulse sealer and forced cooling are employed for making cross seals (photo, right).

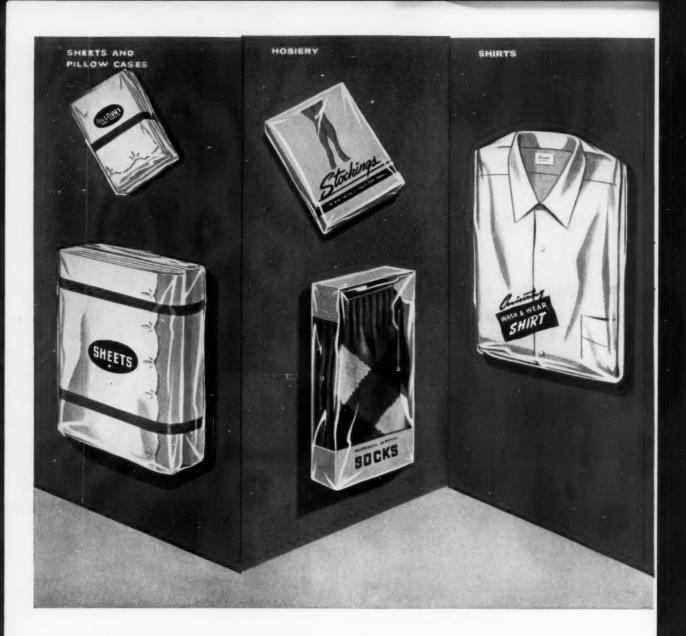
the hot weld is rapidly cooled by a timed blast of air through ports in the rear jaw.

To control handling of the film, which tends to stretch and become sticky in high humidity, the packaging machines are located in a glass-enclosed, air-conditioned room. Relative humidity in the room is held between 40 and 50%.

Completed packages, produced at a rate of 30 per minute on each head of the two machines, are hand loaded into colorful red and yellow tray-and-sleeve cartons that resemble oversized match boxes and contain eight pouches each. Printed on the reverse side of the sleeve are detailed instructions for use of the combined detergent-and-bleach powder in varying types of European washing machines.

SUPPLIES AND SERVICES: PVA film by Mono-Sol Corp., Gary, Ind. "Transwrap" Model 108 D form-fill-seal machines supplied by Hamac Packmaschinen GmbH, Dusseldorf, Germany.





AVISUN *OLEFANE** POLYPROPYLENE

Now... better packaging at lower cost

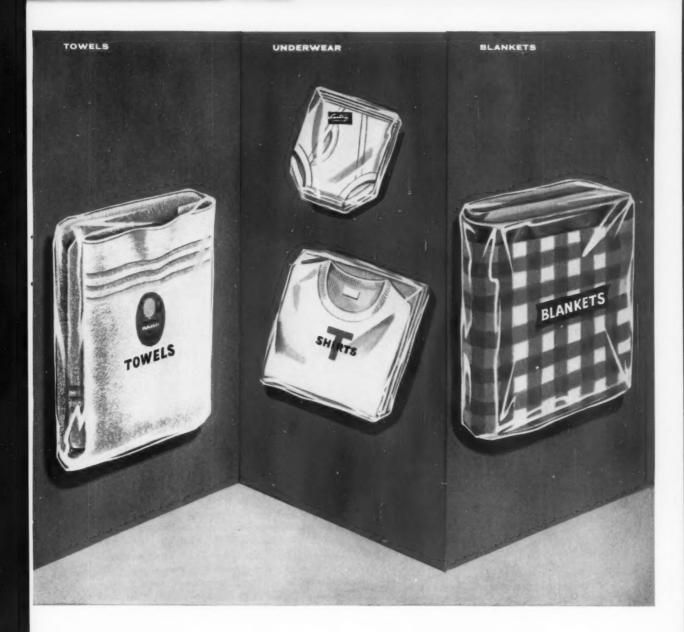
MAKES A CRYSTAL-CLEAR SHOWCASE for your products. AviSun Olefane, with its excellent clarity and gloss, displays goods with brilliant sparkle and appeal.

MORE FILM PER POUND. Highest yield of any packaging film. A real opportunity for savings in packaging costs.

PROTECTS GOODS LONGER. Olefane is unaffected by changes in humidity, doesn't dry out, become brittle or crack. Keeps goods factory-clean almost indefinitely.

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Containerization

The trend toward standardized, demountable cargo units for land, sea and air carriers demands that the packaging engineer plan package dimension for maximum benefit. By Martin S. Peterson*

The future, it is logical to assume, will bring many developments directed toward making more economical use of container and cargo space. Standardization and simplification reforms are in the offing. In these developments the package itself will be a basic problem. It is, therefore, important for the packaging man to look beyond his present inplant parameters to include new developments in shipping cases, pallets, materials-handling equipment and the ultimate cargo spaces. In short, he will need to project his view from the unit package on through to the end of "the long haul."

Successful coordination of the facilities of land, water and air carriers, presently quite diverse, depends upon the analysis of many special situations, procedures and items of equipment. The present article is limited to an examination of the elements of the total problem, its scope, some of the groups at work trying to solve certain phases of the problem and "future directions." With regard to future directions, it seems safe to predict that if "containerizing containers" are standardized as to capacity, it will be highly profitable to bring unit-package dimensions into conformity. Especially if, for the long haul, land, water and air media are to be used.

Elements in the problem

Configurations, dimensions and weight are three variables that sooner or later enter into any study of broad-gauge standardization of containers, materials-handling equipment and cargo spaces available on land, sea or air carriers. Reconciling these variables in order to achieve the utmost efficiency and ease in handling and use of space in transporting and storing goods creates problems in engineering,

mathematics and also in what might be called "multipartite coordination."

With regard to this latter point, coordination, both private and public agencies have concerns in standardization that must be taken into account lest standardization be effected too rigidly and too early for the common benefit. The enormous savings in labor, time and money that would accrue from the adoption of sound standardization principles make any carefully coordinated effort worthwhile and there is already momentum behind the movement.

Although at first glance it might seem possible to set up at once through mathematical approaches

Figure 1. The "Paul Bunyan" box of American Airlines has been carefully sized to fit air-freighter doors, factory aisles and elevators. It is most efficient when packages within are dimensioned to make maximum use of 84-by-63-by-42-in, cube.



^{*}Chief, Technical Services Office, Quartermaster Food & Container Institute for the Armed Forces, Chicago.

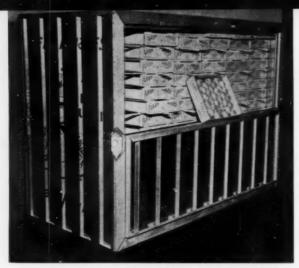


Figure 2. A Paul Bunyan box partially opened, showing space wasted because packages were not sized to fit.

a series of "common denominators" for the categories of container sizes in use and to use such "denominators" to guide the design of handling equipment and cargo spaces, it is evident that this type of thinking, at present, is unrealistic (5)†. The dimensions of the product to be packaged usually govern the dimension and configuration of the container and in some cases actually govern handling equipment and transportation media. Bulk shipment of hazardous liquids is a quick example. From bottles to drums to tank cars, the cylindrical shape is standard. The cylinder is still the ugly duckling in packaging and storing insofar as economy of use of space is concerned.

With regard to multipartite coordinators of the standardization effort, progress is being made. There is a distinct and growing awareness, for example, of the need for greater interchangeability—i.e., the need to design shipping containers for uncomplicated transfer from truck to boxcar to shiphold or, for that matter, to cargo planes (3). Presently, on the average, cargo is handled nine to 15 times en route from manufacturer to consumer. Greater concentration on interchangeability of containers would relieve this situation in considerable degree.

This whole area of interchangeability is a bit murky, however. There are, of course, a few bright spots. The piggy-back technique (5) (truck-rail-truck) has been quite successful (see Figure 4). Some 86 railroads utilize piggy-back and the present rate of piggy-back loadings is greater than 500,000 per year. There have also been a number of efforts to develop a "fishy-back" technique and many engineering refinements are in evidence. A most interesting example was written up in Railway Age for July, 1959. A "birdy-back" system (truck-, rail- or ship-to-plane) has not been developed for extended

†Figures in parentheses identify References appended.

use, but this area is not by any means a neglected one so far as study is concerned.

The over-all problem of interchangeability has not been solved, of course, and perhaps never will be if a perfect solution is the goal. But in the meantime, coordination looking toward establishing design principles for interchangeability is proceeding (4, 5, 10). Some of the groups actively occupied with interchangeability and the various other aspects of standardization are listed in Table I (see p. 125). It is evident that packaging research, design and development will be increasingly dependent on the findings and the recommendations of these groups.

Engineering aspects

General nature of the problem. In its bare essentials, the problem of fitting containers to cargo spaces can be presented in two elementary equations. Thus, for a quick picture of the weight aspect:

$$\frac{W^L}{W^u \times N^u} \; = \; W^E$$

Where W^L = the absolute weight limit imposed by law or by the physical limitations of handling equipment or the transport

Wu = the weight per unit

Nu = the number of units

 W^E = the efficiency of use of the weight capacity of transport or storage site.

Giving values to the components of the equation:

$$\frac{2,000 \text{ lbs.}}{20 \text{ lbs. x } 100} = 1 \text{ or absolute efficiency.}$$

Such efficiency could be achieved by a one-ton truck engaged in transporting 20-lb, cartons of a bottled beverage,

An elementary equation for the dimension and configuration problem would be:

$$\frac{D^{cs}}{D^u \ x \ N^u} = CS^E$$

Where $D^{cs} = cargo$ space dimensions

Du = dimensions of container unit

Nu = number of units

CSE = efficiency of use of cargo space.

Thus, a 60-ft. barge floating boxes of spare parts, five layers high, down the Mississippi could be used to give values to our components, namely:

$$\frac{10 \times 10 \times 60 \text{ ft.}}{(2 \times 2 \times 5 \text{ ft.}) \times 300} = 1 \text{ or } 100\% \text{ efficiency.}$$

Scope. The number of times that 100% efficiency in the use of weight and space capacities is attained probably approaches zero. In addition to problems of intra-industry and intra-carrier coordination, there are concrete difficulties such as "off dimensions" of containers and of cargo spaces, severe weight limitations as in light-duty vehicles (the one-ton truck, for instance), unusual configurations of

products to be packaged, etc. To illustrate, a truck with a deck 40 ft, long, transporting 30-ft, steel reinforcement rods, stacked 2 ft. high, is using only a fraction of available cargo space. The rods themselves, compared with more familiar packages such as cartons of metal cans, are of unusual configuration and their weight presents a problem to all con-

veyances except heavy-duty carriers.

"Maladjustment" problems of the sort just mentioned will probably always have to be handled separately from the norm, but there is much being done to alleviate problems in regard to less-troublesome dimensions. Some of the latter type of problems will yield to mathematics—especially, perhaps, statistical techniques. Geometry, insofar as disparate package configurations—as in unitized loads—are involved, might contribute some useful principles.

Data on the dimensions and configurations of containers, pallets, conveyors, cargo and warehouse spaces are plentiful. The conundrum is to arrange these data in patterns and to determine therefrom where the trouble spots are. The British, as will be explained later, did this with fruit and vegetable containers (9) and without doubt it has been attempted in other categories of commodity packaging.

Perhaps, as a contribution to understanding just what the phases of the main task are, one useful

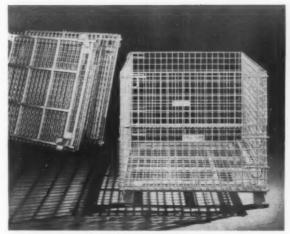


Figure 3. Collapsible Palletainers simplify air and other shipments, since loads for individual customers can be dispatched in one unit on a bulkreceipt basis. Palletainers, which fold to one-fifth of erected cube, come in two sizes, with wall heights of either 24, 28 or 30 inches.

approach is to cite some of the work in progress or completed on (1) the capacities of land, marine and air transport, (2) handling equipment—and here substantial attention has been given to pallet sizesand (3) container sizes. It is recognized that the

Chart I: Integration of through-flow from packaging plant to market: tasks and workphases

UNIT PACKAGING TASK

Determine optimum number of sizes by

(a) analysis of denominations of items to be packaged

(b) compatibility of sizes to containerization

- Determine optimal weights by
 - (a) analysis of commodities (b) compatibility with containerization weight limits

Develop unitized load Develop in-plant equipment and techniques adjusted to patterns integrated systems

MATERIALS-HANDLING TASK

Conveyors

Develop mechanization and automatic conveyer systems Fork lifts, cranes

Standardize to meet needs of interchange of cargo Palletization

Standardize sizes

Containerization Standardize sizes

TRANSPORTATION TASK

Piggy-back

Traffic control

techniques

Study problems of length, tie-down, etc. Analyze problems in use of wheelless piggy-back containers

Develop systems for consolidating shin-

ments, streamlining routings, tracing

Fishy-back, birdy-back

Effect compatibility with Standardize equipment land transport media Establish range and limits of weight and size

Interchange

and cargo spaces to attain inter-carrier through-flow

Return loads

Develop container pools

Coordination

Develop team concept in transport Analyze economics of integrated systems, including labor problems, ICC, etc.

DISTRIBUTION TASK

Warehousing

Determine impact on existing facilities

Costs

Study rate structures, reduction in number of handlings, cost of new equipment, etc.

basic problem is the interrelationship of these three factors. Lack of attention in the past to this interdependency has without doubt brought about some of the maladjustments which now exist.

Cargo spaces

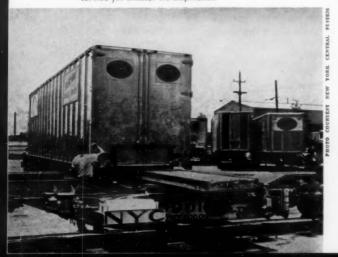
Cargo capacities. With regard to the dimensional capacities of rail and ship cargo spaces, the factor of overhead clearance (i.e., the vertical dimension) seems to be of greater critical concern than floor-space dimensions. Maj. H. A. Ablett, a British officer attached to the U. S. Army Transportation Corps, has analyzed the cargo-space situation in regard to rail and marine transportation systems in connection with his search for "optimum" containers for these two types of carrier (1). He determined, on the basis of a survey of the existing situation, that the optimum height dimension for a shipping container designed for containerization was 5 ft., $1\frac{1}{2}$ in. for rail and 6 ft., $10\frac{1}{2}$ in. for marine traffic.

Sources for data on carrier capacities. This brings up a primary question: Where are data on cargo capacities, including dimensions, to be found? Table II (p. 126) presents some representative sources.

Materials handling

Data on attempts to standardize materials-handling equipment do not appear to be very plentiful, but whether or not this is because the need to "normalize" the capacities of fork-lift trucks, cranes, pallets, conveyors, etc., etc., is not urgent is unknown. It may be that there is more literature available than meets the eye. It is clear that considerable work is being done on conveyor systems, palletization and "containerization." Considering containerization as

Figure 4. Demonstrating New York Central's Flexi-Van service, a fully loaded highway trailer is backed quickly into position at right angles to specially designed railroad flatcar. Smaller containers are also used in some "piggy-back" rail service for smaller-lot shipments.



a part of the over-all materials-handling complex is admittedly an extension of the meaning of the words "materials handling."

Conveyors. With regard to conveyors, a survey was undertaken by the Packaging Institute to learn from the corporate members just what the situation is. The replies of 48 members have been published (13). The objective of this survey was, primarily, to obtain coordination in the design of packaging machinery, but the data have ramifications into the area of container standardization.

Containerization. The prototype for containerization, at least in recent history, is the Conex, first used to transport the household goods of reassigned military personnel during and after the World War II period. It was soon apparent that the Conex was an important and useful concept for handling materials safely and efficiently, and the idea began to cross borders, i.e., its usefulness for other goods was recognized and applied. There are disadvantages, as Admiral Metzger recently pointed out (8). The subject of containerization, it is useful to know, is well presented in a study published by the Department of Engineering, University of California at Los Angeles (3). In the same family with the Conex are other examples of containerization (Table III. p. 128). "Containerizing" containers are no longer confined to truck-rail traffic, but are finding applications in other transportation media. In the initial stage, but with a few actual operations under way (one on the West Coast) is the "fishy-back" container-a ship-to-rail system. The "birdy-back" container has emerged and the day when it will be standard procedure is probably not too far away. These developments are without doubt precursors of the interchangeable container.

One difficulty to be overcome is obvious: namely, the requirement, for shipment by air, that tare weight be held to a minimum. Nevertheless, as Col. A. J. Mason, Air Force Chief, Packaging & Materials Handling, Air Material Command, Wright-Patterson AFB, stated (2) at a meeting in 1958 of the Eastern Division of the Society of Industrial Packaging & Materials Handling Engineers held in New York: "There is urgent need for a universal container suitable, because of minimum tare weight and ability to perform under several varying conditions of shipment, for use during all modes of shipment." It will probably take the combined efforts of the Air Force and the industry to discover the ideal container, he added, but the trend is evident.

The "Paul Bunyan" box of American Airlines (Figures 1 and 2) is representative of pioneer effort in the containerization of air cargo. The prototype boxes were tested in 1957 and found, as was to be expected, to have certain deficiencies. Adjustments

Table I: Organizations engaged in studies on standardization and/or containerization

Organization	Address	Comments
American Society of Mechanical Engineers, Standards Dept.	29 E. 39 St., New York	Participates in various standardization projects
American Standards Assn. National Standards Committee	70 E. 45 St., New York	Has a mission to establish stand- ardization of pallets, cargo containers, van containers; a prime objective is interchangeability
American Trucking Assn.	1424 16 St., N.W., Washington, D. C.	Has interests in standardization of trucks and trailers
Assn. of American Railroads, Freight Loss & Damage Prevention Section	59 E. Van Buren St., Chicago	Promotes and contributes to standard- ization, containerization, interchange- ability, etc.
Federal Government		
Dept. of Agriculture Departmental Steering Committee for Research with Pallet Containers	Washington 25, D. C.	Is concerned with improvement of pal- lets, including standardization aspects
Div. of Packaging Research, U. S. Forest Products Laboratory	Madison, Wis.	Has standardization interests in con- nection with product-development re- search
Transportation & Facilities Branch, Agricultural Marketing Service	Washington 25, D. C.	Has interests in standardizing han- dling equipment, transportation media, etc.
Dept. of Commerce Business & Defense Services Administration, Standardization & Sim-	Washington 25, D. C.	Collects data on cargo containers in the U.S.A. and overseas
plification Group Maritime Administration	General Accounting Bldg. 441 G. St., N.W., Washington, D. C.	Maintains cognizance of standardiza- tion progress
Dept. of Defense U. S. Army, Army Packaging Board Engineers, Engineering Research &	Washington 25, D. C.	Has continuous interest in standardiz- ing number and sizes of containers, handling equipment, etc. Has basic in- terest in standardization
Development Laboratory	Ft. Belvoir, Va.	e e e e e e e e e e e e e e e e e e e
Ordnance, Packaging Office, Field Service Div.	Washington 25, D. C.	<i>u</i>
Quartermaster, Standardization Branch	Washington 25, D. C.	
Transportation, Joint Conex Control Agency, Transportation Standard-	Washington 25, D. C.	
ization Agency		Constitution of the second design
U. S. Navy, Military Sea Transpor- tation Service, Cargo Div. U. S. Air Force, Directorate of	Washington 25, D. C. Wright-Patterson Air	Contributes to the study and develop- ment of standardization in all phases Has interests in standardization both
Transportation & Services	Force Base, Ohio	in relation to surface and air trans- portation of supplies
Joint-Industry Carrier Group (nine companies)	Electro-Motive Div. General Motors Corp., LaGrange, Ill.	Seeks to establish general criteria for a container system based on inter changeability
National Research Council, Div. of Engineering & Industrial Research	2101 Constitution Ave. Washington 25, D. C.	Activities of the Maritime Cargo Transportation Conference come under this group
National Wooden Pallet Mfrs. Assn.	401 Barr Bldg., Washington, D. C.	Follows standardization developments and contributes to progress in this area
Printing & Allied Trades Assn. (PATRA)	Leatherhead, Surrey, England	Has interests in unifying containe sizes in Great Britain
University of California at Los Angeles, Dept. of Engineering	Los Angeles	Studies the various engineering phase of cargo handling and containerization



Figure 5. Handling equipment for loading and offloading air cargo is highly developed. Trend toward standardization and containerization is especially evident in air transport, but tare weight and configuration of cargo spaces are limiting factors.

Table II: Some sources of data for capacities of land, water, air carriers

Type of carrier	Organization	Address	Remarks	
Land (a) Trucks, trailers	Automobile Mfg. Assn.	Detroit	The chief source fo	
	American Trucking Assn.	1424 16 St., N. W., Wash- ington, D. C.	limits, etc., of all makes of trucks, trailers, etc.	
(b) Rail (box- cars, flatcars, etc.)	Official Rail- way Equip- ment Register (pbn.)	80 E. Jackson Blvd., Chicago	The definitive source for capacities for every type of car used for freight	
Marine	Federal Maritime Administration, U. S. Dept. of Commerce	Washington 25, D. C.	A source for cargo capacities of ships of U. S. registry	
	Maritime Assn. of the Port of New York	New York	A source for data on Port of New York ships and shipping	
Air	Air Cargo (pbn.)	139 W. Clark St., Chicago	The Station Directory put out by this publication gives capacities of the various commercial transport planes operating out of the major air ports of the U.S.A.	

had to be made in dimensions to achieve the right fit for air-freighter doors, factory aisles and shipping elevators. To attain the greatest possible versatility for handling at the loading dock, the box was equipped with strong casters. Once all the corrections were made and after further testing of the container, the Paul Bunyan box was put into service and its success is now well recognized.

Palletainers (Figure 3), developed by the Atlantic Transfer Co. of Los Angeles, represent another device for efficiency in the handling of multi-unit loads on a containerized bulk basis.

Palletization. Much thought and many investigations have been expended on the problem of standardizing pallets. This problem is immediately complicated, to be sure, by the number of container sizes that exist, but a solution becomes more urgently needed as the trend toward unitization of pallet loads, as for example in the Armed Forces, becomes a more pronounced requirement.

The Australians have adopted a standard pallet based on length-width dimensions, 46 by 46 in. (7). Considering the ideal unit load to be 46 by 46 by 46 in., it is possible to work out a calculating system to determine the optimum use of this space in terms of package sizes. Such a calculating system has been devised by the Australian group, complete with its own slide rule. The system is based upon the division of the unit load into mathematically related components (package size), using 46 in. as a module. This module, when divided by any factor from one to eight, but excluding seven (an "off size" since it is not a common package dimension), gives one of the nominal outside dimensions of the package. Similar division by the desired factors will give the other dimensions. The system permits, with respect to the standard pallet, 28 arrangements and 84 combinations of package dimensions (length, breadth and height). The packages can be oriented in 196 different ways. Thus three package sizes (for use, let us say, in packaging fluorescent lights of three types: 2 by 2 by 23; 2 by 2 by 46; 1 by 1 by 46) could be arranged in a unit load in many different ways and with varied orientations and still utilize fully the 46by-46-by-46-in, dimensional capacity of the pallet.

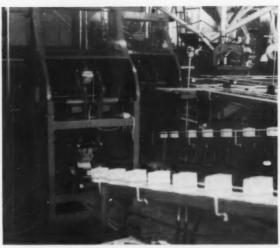
It has been forecast that we are moving toward an automated type of palletization adjusted to powered roller conveyors for loading and unloading certain types of freight (11a). Such developments would appear to be on the distant horizon, however, since plant equipment, materials-handling, carrier and receiver equipment would first have to be in an advanced state of integration.

Not altogether related to the subject of materials handling, but nevertheless of interest, is a system of "brick-wall" loading of pallets, proposed by K.

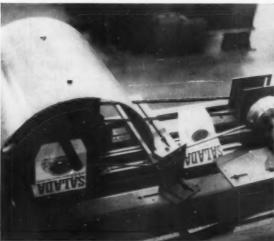
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Table III: Containers or demountable bodies for handling less-than-carload lots

(For intra-carrier, uninterrupted point-of-origin to point-of-description service*)

Name or description	Construction	Dimensions	Manufacturer, owner or carrier	
Portokolds	Steel-fibre glass	3′ 5″ x 3′ 5″ x 6′ 4″	Chicago, Mil- waukee & St. Paul Railroad	
Speedboxes	Aluminum	2' 10" x 4" x 41½"	Missouri Pacific Railroad	
Transpor- tainers	Steel	6′ 5″ x 6′ 5½″ x 7′ 9″	Alltransport, Inc.	
Conex	Steel	6′ 3″ x 6′ 10¼″ x 8′ 6″	Armed Forces	
Fitch type	Wood and steel	8' x 8' x 17' 6"	Motor Terminals, Inc.	
Mobilvans	Aluminum	8' x 8' x 21' x 6'	Spector Motor Service	
Convert-A- Frate or Adapto	Either steel or alumi- num	8' x 8' x 17"	Chicago, Rock Island & Pacific Railroad	
Flexivan	Aluminum	"Trailer size"	New York Cen- tral Railroad	
Land-sea boxes		24' x 8' x 8½"	Matson Naviga-	
Paul Bunyan boxes	Aluminum	84" x 42" x 62"	American Air- lines	
Palletainers Steel wire (2 gauge), col- lapsible to one-fifth cube		40" x 48" or 32" x 40", with heights 24, 28 or 30"	Union Steel Products Co.	

^{*}It is estimated that 300,000 truck-trailer units were in operation in 1957 and it goes without saying that the number has since increased.

Erdlenbruch (6). It appears that many packages are well suited to this self-stabilizing method of loading, but the system departs somewhat from the module concept, which is not fully approved by Erdlenbruch.

Container sizes

In 1956, at an exhibition held in London and sponsored by the Ministry of Agriculture, Fisheries & Food, some 800 fruit and vegetable containers of the different sizes used in Europe were displayed (9). An analysis of sizes showed that within narrow limits the containers fall into three families: A—60 by 40 cm.; B—55 by 35 cm., and C—50 by 30 cm. (The height is not given.) These dimensions, roughly converted to inches, would be: 24 by 16 in., 22 by 14 in. and 20 by 12 in., respectively.

Just how these dimensions would work out for the U.S. fresh fruit and vegetable industry is not clear.

Units of measure have influenced U. S. package sizes in the past (as witness the historic "bushel basket") and product conformations have also played their part in container design. Products easily bruised are packaged in shallow containers (the peach lug, for example) and no doubt "normalizing" the height of containers would become a matter of selecting a height that would lend itself to a system of variable heights—say, for the sake of argument, 6 in., 12 in. and 18 inches. A unitized load, 54 in. high, could therefore be composed of any desired combination of heights. This might furnish a very real convenience in traffic between packer and retail outlets.

Progress in achieving considerable unification of container sizes can be expected from the National Standards Committee (MH 5), established in June, 1958, by the American Standards Assn. (see Table I). This committee has invited all organizations interested in standards to participate in its work. Scope of the committee's activities includes the standardization of pallet containers, cargo containers and van containers suitable for interchangeable use on the different types of transports (air, land and water). The American Society of Mechanical Engineers and the American Materials Handling Society are jointly sponsoring the project.

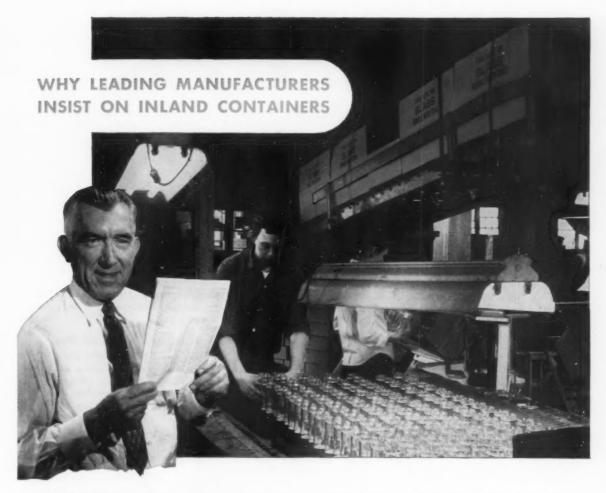
Container sizes have also been studied by the U. S. Dept. of Commerce in its Standardization and Simplification Group and a pamphlet treating 248 items has been published (12). This pamphlet, which contains information on container sizes permitted both by railroad and steamship lines, was prepared for the Maritime Administration. A valuable feature of this report is a table of American shipping containers showing users, manufacturers and container types.

Although it is not within the scope of this report to analyze container-standardization work overseas, mention at least should be made of such agencies as the Materials Handling Branch of the Australian Department of National Development, the General Federation of German Industry, the Swiss and German Railways, and the International Container Bureau. Each of these groups numbers among its several projects, containerization, interchangeability, pallet and container sizes. Normalizing container sizes for better shipping and handling when consignments cross borders is a growing movement overseas.

New concepts and trends

It seems safe to predict that standardization will grow not by leaps and bounds, but only in accordance with the need for intra-carrier integration. New ideas and new inventions that make standardization simpler to achieve will accelerate progress.

A few references to current activities may serve to suggest future directions [Continued on page 184]



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New display packaging

Q: As a manufacturer of cosmetics, we are looking for something fresh in display containers for our glass-packed products. We have used a number of set-up boxes and platform combinations and want something with more merchandising punch. Can you suggest any new techniques or materials that could be utilized to create a more dramatic and striking point-of-purchase display for our products?

A: First, we believe that a jaded attitude toward paperboard containers is simply not justified, since dramatic new constructions in boxes and cartons are being developed every day-and it is hard to beat paperboard for economy. Nevertheless, there are some new materialsfoamed plastics-which are entering the display-packaging field and are said to give extra merchandising zip to a product. There is also a new technique for forming plastic sheet into "cartons." The foams are made from polystyrene, polyurethane and polyethylene resins, and can be used either alone, in combination with other plastics, or with paperboard constructions. By employing different formulations, foams can be obtained with textures ranging from soft and spongy to highly rigid. Some of these materials are formed in molds, others are formed in sheets and then cut, and some are even machined to the final shape.

Foamed plastics started as industrial cushioning materials. The first consumer-packaging applications were as platforms in paperboard boxes and cartons. Now there are a growing number of uses where the foam serves as the basic package and is closed with a formed sheet-plastic lid or a film overwrap. Regardless of type, the foamed plastics can add a dazzling white display background for the product container and an extra measure of

protection against shipping damage.

The cold-forming technique for plastic sheet, now applied to bioriented polystyrene, employs a closely contained mandrel that bends pre-cut, but unscored, plastic blanks without cracking and locks special end tabs to form a tray or even a fully enclosed locking-type carton. Automatic machinery has been built for the tray and equipment is on the drawing board for forming cartons.

Leakproof polyethylene cap

Q: We would like to use a threaded polyethylene cap on a polyethylene bottle, but tests have revealed that when we apply enough torque to close the cap securely, it jumps the threads on the bottle. With less torque, the caps unscrew and leakage occurs during shipment. Can we make some change in design to correct this problem?

A: The high-slip property of molded polyethylene makes use of plastic-toplastic surfaces very difficult. It is generally found more practical to skirt this problem by using one of several captive polyethylene closures now in commercial use. In most, the basic principle is that of a snap fit, which is accomplished by molded lands and undercuts in the bottle and cap. In some cases, these closures even comprise two concentric cylinders that fit inside and outside of the bottle neck for added leakproof construction for liquid products. Extra sealing rings are also occasionally molded into the inside cap cylinder to add multiple barriers against either direct or capillary leakage.

There are two generally used dispensing means for liquids: first, a swing fitment that can be swiveled down against the cap to close off flow; second, a quarter-twist screw opener that operates on a valve-stemand-seat principle. In the latter cap,

only recently perfected, the inner valve stem is molded as a part of the snap fitting. The outer threaded, but also captive, cap contains the orifice, which separates from the valve stem on turning.

For shaker containers of powders, there is now a two-piece captive cap with sifter holes. The inner piece is constructed for a snap fit, the outer one rotates for dispensing or for a dust-tight seal.

To avoid wrinkling of pouches

Q: We would like to use a paper and resin coating combination in one of our pouch packages, but have not been able to find a combination which will not show wrinkling and waviness in humid weather. Would it be possible to find such a combination that would not wrinkle and curl the package under these conditions?

A: Paper can be modified by the addition of special resins and impregnations which greatly increase its strength and dimensional stability. However, available paper combinations cannot be made which approach the stability of plastic films and coatings. Plastic films in general show very little, if any, dimensional change with extreme changes in humidity. As a result, there is a considerable difference in the dimensional change between paper and the plastic films, and this causes the distortion and curling you have noticed in your pouches.

A possible answer would be to eliminate the paper entirely and to use opaque plastic film which would have an excellent surface for printing. This would entirely eliminate your problem.

Another possibility is to make sure that the paper web is properly humidified at the time of the coating or laminating operation. Perhaps your present paper has been excessively dried out so that it distorts on exposure to moisture in the air.



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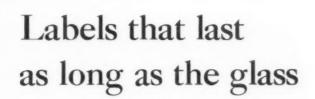
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Plants & People

Bartelt Engineering Co., Rockford, Ill., has been acquired by Riegel Paper Corp., New York. The acquisition of Bartelt, a packaging-machinery manufacturer, marks Riegel's entry into the packaging-equipment field. Bartelt will be operated under its present name as a wholly owned sub. Harold Bartelt will continue as pres. of the company.

The purchase was made for 56,592 shares of Riegel common stock. Dollar total, based on New York Stock Exchange quotation, was \$2.2 million.

Hubert O. Ranger has been appointed director of the packaging laboratory at the General Foods Research Center in Tarrytown, N. Y. He was formerly with the Plastics Coating Corp. in Holyoke, Mass., as laboratory director. According to GF, Mr. Ranger's appointment is expected to "help broaden the operation of the packaging laboratory at Tarrytown under the company's new concept of creative packaging.



Caparon

Michael G. Caparon has been promoted to the post of mgr. of the advertising dept. of The Dobeckmun Co., Cleveland, a div. of The Dow Chemical Co. Acting mgr. of the dept. for the past two years, Mr. Caparon assumes complete responsibility for directing advertising and public

relations for the company's line of packaging and industrial products. Prior to joining Dobeckmun in 1957, Mr. Caparon did advertising and sales-promotion work for the apparatus div. of General Electric Co.

Sherman Paper Products Co., Newton, Mass., is now affiliated with St. Regis Paper Co., New York. George Sherman, pres. and treas., founded the firm in 1920 and will continue as chairman. Sherman, which converts kraft linerboard and makes corrugating sheets and containers, will be operated as a div. of St. Regis.

E. M. Davis becomes v.p. of Injection Molding Co. (Imco), a sub. of Rexall Drug & Chemical Co., Los Angeles. He was formerly director of purchasing at Imco's Kansas City headquarters. With the company since 1949, Mr. Davis will now be concerned with production aspects of Imco's plants in the U. S. and Canada. Frederick L. Kocher has been appointed gen. sales mgr. for the Rexall sub. He formerly worked out of the company's Chicago office as district sales mgr.

Rexall also has created a new chemical div. Elected pres. of the div. is Ralph M. Knight, formerly v.p. and polyethylene mgr. of National Distillers & Chemical Corp. Assisting Mr. Knight as v.p. in charge of production will be John D. Provo, formerly with

Judson Bemis has been elected pres. of the Bemis Bro. Bag Co., St. Louis. He succeeds his brother, F. G. Bemis, who becomes chairman of the board. C. W. Akin has been elected exec. v.p. of the company. R. V. Scott and B. L. Willmore have been named v.p.'s. The former pres. is relinquishing his duties after 20 years as head of the company. The new chief exec. will direct Bemis'



J. Bemis F. Bemis Akin

operations from Minneapolis. Mr. Akin has been associated with Bemis since 1946. His most recent post was director of allied operations. Last year, Mr. Scott was made asst. director of sales and elected a director. As v.p. in charge of procurement and materials, Mr. Willmore will continue to locate in Boston. F. G. Bemis, Jr., has been appointed director of allied operations.

Modern Plastic Machinery Corp., Clifton, N.J., has acquired Boston Plastic Machinery, Inc., Boston. Under terms of the merger, Boston Plastic will be physically integrated at Modern Plastic Machinery's plant and will operate as its blow-molding div. Leslie J. Kovack, formerly pres. of Boston Plastic, becomes v.p. in charge of the new div. Fred Maywald, exec. v.p. and gen. mgr. of Modern Plastic Machinery, says the new acquisition will enable the company to provide a full line of blowmolding equipment engineered and produced as integrated, compatible units.

The Wheaton Glass Co., Millville, N. J., has formed a new company, Wheaton Plasti-cote Corp., with executive offices in Millville. The new company will manufacture and sell plastic-coated glass containers for aerosol products. According to Wheaton, allocation of these operations to a separate management will permit the company further diversification within the field of plastic packaging. Robert N. Allen, formerly of Wheaton Plastics and Bridgeport Brass Co., has been appointed v.p. and gen. manager.

Ellsworth H. Shriver becomes asst. director of product planning for The Mead Corp., Dayton, O. Formerly mgr. of product research at the Mead Research Center, he will maintain offices at Chillicothe, O. New director of research and development at the Mead Research Center is John C. Redd. Henry G. Caldwell becomes director of corporate technical service and Charles H. Schneider is research administrator.

American Flange & Mfg. Co., New York, has appointed J. Richard Ringgold as v.p. of sales. Herbert F. Wheaton becomes v.p. of operations. Named to the position of company v.p. are Richard L. Parish, Jr., and L. Robert Vitkin. American Flange manufactures closures for steel containers.

A. Herzka has established an independent practice as an aerosol packaging consultant under the name of Pressurized Packaging Consultants, Ltd. The new firm is located at Ashbourne House, Alberon Gardens, London.

Norman H. Spear has been appointed gen. mgr. of the blow-molding dept. of



Olympic Plastics Co., Los Angeles. Mr. Spear was formerly associated with Continental Can Co. as director of plastic research in its paper and plastic container div. Previously, he served as asst. research mgr. with Emhart Mfg. Co. Mr. Spear's Spear appointment was made concurrently with Olympic's announce-

ment of additional blow-molding facilities. A 40,000-sq.-ft. plant addition is already under construction to meet the increasing demand for plastic bottles and other blow-molded products.

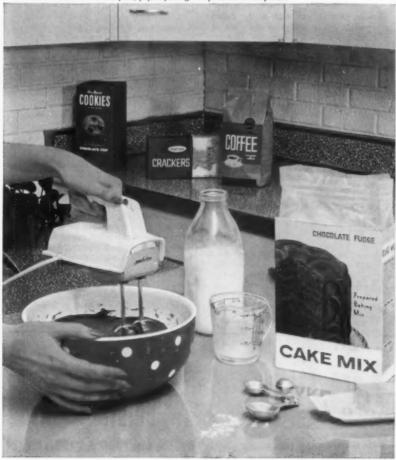
T. C. E. Ecclesine has been named v.p. in charge of packaging sales for the Gardner Div. of Diamond National Corp., Middletown, O. Mr. Ecclesine, who joined the firm in 1958 as director of mktg. services, will retain this func-tion along with his new responsibility for sales of Gardner's dry-carton, carrier and paraffined-carton packaging. The Gardner Div. also has named William J. Duggan mgr. for Midwest packaging sales. In this capacity, he will direct all packaging-sales activities in the Chicago, Madison, Minneapolis and St. Louis offices.

G. J. Pyle has been appointed mgr. of sales promotion and new-products development in the marketing dept. of the Industrial Tape Div. of Minnesota Mining & Mfg. Co., St. Paul.

The formation of a Plastic Chemical Div. has been announced by National Cleveland Corp. The new div.'s offices are at 1984 State St. Ext., Bridgeport, Conn. Established for the purpose of marketing products developed by re-

beat well...goes for paper making, too

Rhinelander Glassine and Greaseproof papers package the products in this picture



Beat Well says the recipe — and the housewife who knows her cakes knows the importance of beating. And beating is equally important in the making of the high density wax laminated liners that protect cake mixes. These and a host of other time-saver foods are packaged in Glassine and Greaseproof papers . . . the wonder papers of modern packaging. Write for complete information stating your particular application.



In making Glassine and Greaseproof at Rhinelander, beating is a meticulously controlled process, considerably lengthened to transform the cellulose fibres into tiny strands, later tightly compacted on the paper machine. The microscopic fibrillae give Glassine and Greaseproof its density, its greaseproofness, and versatility.

These tight, dense papers keep foods fresh — resist greases, oils and fats—retain aromas, and protect flavor and quality.



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GLASSINE AND GREASEPROOF ... PAPERS FOR PROTECTIVE PACKAGING

Plants & People [Cont'd]

search in plastics and chemicals, the new div. is the third plastics concern acquired or established recently by National Cleveland. Initial products offered by the div. are inks, paints, lacquers and coatings for flexible or rigid polyethylene and polypropylene.

Mosinee Paper Mills Co., Mosinee, Wis., has promoted three men to newly created positions on its sales staff. Donald E. Allen is now mgr. of mkt. development. He had been in charge of advertising, sales promotion and public relations for the past three years. F. P. Stone has been elevated to the post of district mgr. for Wisconsin and Minnesota. A similar position has been filled by Edward J. Rolain, who will be responsible for Illinois, Michigan, Indiana, Ohio and Missouri.

KVP Sutherland Paper Co. is the name which has evolved from the merger of The KVP Co. and Sutherland Paper Co., both Kalamazoo, Mich. (See Modern Packacing, Dec., 1959, p. 150.)

Robert S. Long has been named mgr. of field sales operations in the Hazel-Atlas Glass Div., Continental Can Co., New York A. P. Norton is now mgr. of production planning for the div. He was formerly mgr. of industrial engineering, Robert J. O'Brien has been appointed to the newly created position of director of equipment develop-

ment and engineering. All three men will locate at Hazel-Atlas headquarters in Wheeling, W. Va.

Paul Gilmore and James A. Cobb have been named to head the newly created Eastern and South Central sales regions of the Paper Products Div. of Owens-Illinois Glass Co., Toledo. Mr. Gilmore, formerly gen. mgr. of the Paper Products Div.'s corrugated-box plant at Bristol, Pa., will cover the Eastern region from New York. From Memphis, Mr. Cobb will supervise the South Central region.



Ferry

A. Schrader's Son, Brooklyn, a Div. of Scovill Mfg. Co., has appointed Royal T. Ferry, Jr., as chief engineer of aerosol products. He will be in charge of Schrader's accelerated activities in this field. Mr. Ferry has had experience in various phases of aerosol-valve research, de-

velopment and production, having worked with both Bridgeport Brass Co. and the Valve Corp. of America.

Warner Bros. Co., Bridgeport, Conn., has changed the name of its Warner Bros. Box Div. to the Packaging Div. of Warner Bros. According to the company, the growth of creative design services in this div., along with increased manufacturing facilities, warranted a name more descriptive of the div.'s activities.

Dr. J. William Haun is the new director of physical research at the Central Research Laboratories of General Mills Corp., Minneapolis. Dr. Haun will direct activities of the packaging, milling and mechanical engineering depts. as well as physical research. He succeeds L. F. Borchardt, now managing director of the laboratories.

Koppers Co., Pittsburgh, and Sinclair Oil Co., New York, announce a joint plan to build a large, modern petrochemical plant at Houston, Tex. Among the materials to be produced will be styrene monomer, for use in the production of plastics. A jointly owned corporation will operate the plant.

M. T. Hubbard has been elected pres. of Weston Paper & Mfg. Co., Dayton, O. He succeeds H. C. Lange, deceased. C. H. Hutchins becomes sr. v.p.

Five sales-executive appointments have been made by Lord Baltimore Press, New York. Allen C. Staley, Jr., becomes asst. to the pres. for sales and mktg. William P. Lyle is the new Eastern Div. sales mgr. Three Eastern Div. asst. sales mgrs. have been named by the folding-paper-box manufacturer. They are Robert E. Jones, Norman Liman and G. Stuart Sexton.

Fluted Paper Products Co. is the new name of the former J. P. Mfg. Co., South Norwalk, Conn. The company manufactures fluted paper packaging for the bakery and confectionery indus-



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Will the new FOOD & DRUG LAW throw packaging into a turmoil?

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What extractability tests must be made to obtain F&DA approval? ■ What costs are involved and who pays? The answer to these and dozens of other vitally-important questions are contained in a complete interpretive report by the editors of MODERN PACKAGING. For your copy of this factfilled 20-page report, send \$1.00 to MOD-ERN PACKAGING, Room 400, 575 Madison Ave., New York 22, N. Y. (Bulk rates available upon request.)

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Authority of the Field for Thirty-Two Years

tries. Control of the company has been purchased by Frederick C. Stakel, who becomes pres. and exec. officer. He was formerly director of advtg. and sales promotion for St. Regis Paper Co. Henry P. Clark has been elected v.p. and gen. mgr. of the company.



Hamilton

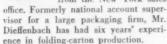
James S. Hamilton has been named v.p. in charge of sales for the bag-machine div. of Potdevin Machine Co., Teterboro, N. J. He was formerly asst. to the pres. During his 25 years with the company, Mr. Hamilton has served as both a salesman and as advertising mgr. Potdevin

is a manufacturer of paper-converting machinery.

William A. Lunsford moves up to mgr. of research and development at Consolidated Paper Co., Monroe, Mich. David W. Flotow succeeds Mr. Lunsford as technical mgr. The company also has established a market-research div. under the management of Robert J. Fulop.

Russell Dieffenbach has been named mgr. of the newly created Rotogravure





Bivans Conveyor Co. is the name of a new conveyor-manufacturing company, located at 2420 Eads St., Los Angeles. The new company was formed by Bivans Corp., also Los Angeles, manufacturer of automatic cartoning and cartonconveying equipment. Pres. of Bivans Conveyor is E. L. Bivans. Exec. v.p. is Ronald B. Coleson.



Meendsen

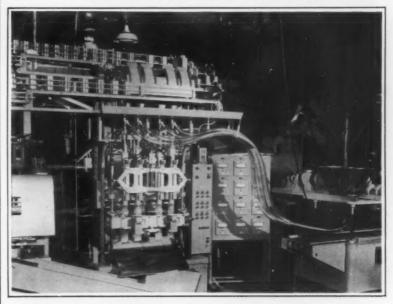
Fred H. Meendsen has been named pres. of Miller & Miller, Inc., Atlanta, a sub. of Union Bag-Camp Paper Corp. He continues as v.p. of mktg. of the parent company. Robert Neff has joined the company as exec. v.p. and gen. mgr. Robert Boylan has been

named v.p. in charge of sales and Gilbert Helmken is v.p. in charge of production. Miller & Miller manufactures folding cartons, printed labels and related packaging products.

The Polyethylene Corp. of America is a newly organized film extruder located in Cranbury, N. J. Robert N. Green, pres., is in charge of plant operations and manufacturing. Paul N. Colby, v.p., is sales mgr. Both men

HAYSSEN DEMONSTRATES WORLDS FASTEST MACHINE AT PACKER'S PLANT

PACKAGES STRAWBERRIES, I.Q.F. VEGETABLES
AND BOIL IN BAG FOODS WITH NEW FEED DEVICE



160 Frozen Food Packers See Compak Operate At Speeds in Excess of 100 Packages Per Minute

Watsonville, Calif. — One hundred and sixty food packers visited the Shasta Foods plant here this week to witness a new Hayssen Compak break production records. The 4-tube machine was demonstrated packaging sliced strawberries in syrup and I.Q.F. vegetables at speeds in excess of 100 bags a minute. Polyethylene was used.

The machine, pictured above, features two feeding systems. The first, shown at the right, is a piston filler which pumps foods like straw-

berries, or fruit cocktail through clear plastic tubes directly to the packaging machine.

Immediately above the Compak is the second system—a can-dump filler which receives the product from the plant's existing equipment and carries it to the packaging machine. This second feed system can be fed by scale, hand, volumetric or pump methods and is ideal for packaging peas, corn, beans, cauliflower, prunes, raisins, sliced apples, strawberries, pineapple, cherries and boil-in-bag packaged foods.

- World's fastest, most versatile poly machine.
 Packages at speeds to 120 bags per minute.
- Converts easily to produce the 2 pound I.Q.F. vegetable package.
- Convertible to boil-in-the-bag product packaging.

HAYSSEN

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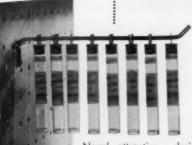
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from 1/4" to 13/8". Plain or decorated.

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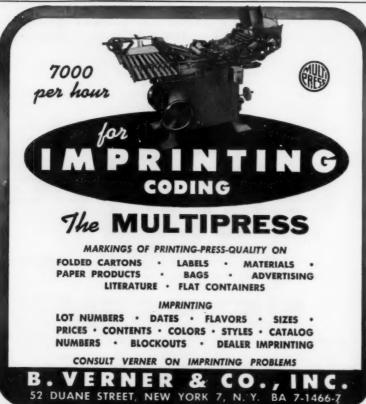
sures, or metal

Novel, attractive - designed for hang-up displays. New Flex Plug easily snaps-on, twistsoff, has positive hold. Hang-up Flex containers with these plugs available in selected diameters any lengths, plain or decorated. Transparent, decorative, reusable, odorless, shatter-proof. Ideal for such things as cosmetics, notions - or hardware, small tools, precision, electronic or machine parts. Increases sales appeal.

Write today for free samples.

PRODUCTS CORPORATION

snap caps 231E MEADOW ROAD (RTE. 17) RUTHERFORD, N. J.



Plants & People [Cont'd]

were formerly with Union Carbide Plastics Co. PCA will specialize in polyethylene sheeting.

Karl E. Schlachter has been appointed head of the newly organized advancedengineering dept. of St. Regis Paper Co.'s Engineering & Machine Div., East Providence, R. I. In this position he is responsible for all major divisional projects which require engineering and development research on new packaging and converting concepts.

Five veteran executives have been elected to the position of v.p. by Nashua Corp., Nashua, N.H. They are: Winthrop L. Carter, Jr., William E.







Carter

Conway, Robert C. Dale, William H. Foster and Ross G. Smith, Jr., Mr. Carter is secy. and asst. treas. of the corporation, as well as a board member.



Smith

Mr. Conway, now v.p. of mfg., joined Nashua in 1954. Mr. Dale, who becomes v.p. of research and development, joined the company in

1955 as product mgr. He is a member of the Technical Assn. of the Pulp & Paper Industry. Mr. Foster moves up from director of sales to v.p. of mktg. He has been with the company for 26 years. Mr. Smith, v.p. of personnel, joined Nashua in 1936 as traffic mgr.

Packaging Corp. of America has established corporate headquarters in Evanston, Ill. The company's present administrative offices, now located in Quincy, Ill., Grand Rapids, Mich., and Rittman, O., will be consolidated in new quarters at 1632 Chicago Ave. The company was formed last year by the three-way merger of Central Fibre Products Co., American Box Board Co. and Ohio Boxboard Co.

The Crowell Carton Div. of St. Regis Paper Co. has created a Dept. of Visiometrics at its headquarters in Marshall, Mich. Purpose of the dept., says Crowell, is to "eliminate much of the subjective individual guesswork and personal preference from package and graphic design," in order to achieve scientifically designed cartons geared for the greatest possible sales impact at the consumer level. The new dept. is equipped with a number of measuring instruments for this purpose. Among



THE CHILDREN'S HOUR can be pretty rough, not only on the toys made to beguile the small fry, but on the packages which must house their playthings. CCA's Sefton Fibre Cans double as permanent containers for storing toys. Hinged tops stay on, help keep home tidy. They're built to take all the punishment a ten-year-old can dish out. People's needs are always part of CCA packaging – even little people's.

To pack it—move it—sell it is the business of CCA packaging.

CONTAINER CORPORATION OF AMERICA





Better labeling...less work ...the HEAT SEAL way!

Labels by Steigerwald Fine labels of all kinds at reasonable cost

Heat Seal requires no glue, no water, no clean-up. Ideal for bag headers and containers of practically all shapes and materials. Instantaneous or delayed action. Made to exact specifications, for use with high speed equipment. Continuous rolls or individual.

Send your present labels for redesign, without charge or obligation, or for estimate on printing in present form. A. M. Steigerwald Company, 910 West Van Buren Street, Chicago 7. Taylor 9-5400.

CINCINNATI 27, O. Stollmaier & Son, Inc. Mariemont Center Bldg. Bramble 1-0222

MILWAUKEE, WIS. H. C. Lackowski Route 1, Box 62 Garden 5-5850 DETROIT 3, MICH. Harry W. Hogg 20157 Greeley Ave. Diamond 1-3848

MINNEAPOLIS, MINN. J. E. & J. L. Moor 3329 Dupont Ave., So. Taylor 4-5309

LOUISVILLE, KY. Practical Products Co. 319 Jefferson St. Juniper 7-1257

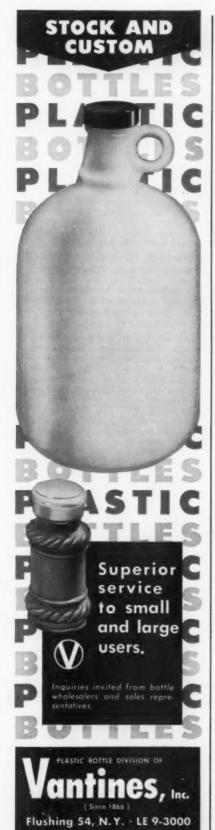
ROCKFORD, ILL. Blackhawk Paper & Cordage 630 Cedar St. Woodland 8-9898

CLEVELAND 21, O. A. C. Foster 4040 Mayfield Rd. Evergreen 2-7555

NEW YORK 25, N.Y. John H. McLaren 500 West 111th St. KANSAS CITY 5, MO. A. B. Mason 905 Jefferson St.

ST. LOUIS 5, MO. Marvin Yates Co. 111 So. Bemiston Ave. Parkview 6-0296

GOLD OR SILVER EMBOSSED . DIE-CUT OR SQUARE . FOIL SEALS AND TAGS . FLAT OR CONTINUOUS ROLLS FOR HAND OR AUTOMATIC USE . HEAT SEAL . PRESSURE SENSITIVE . SPECIAL ADHESIVES



Plants & People [Cont'd]

them is the Polarscope, a device that measures and rates the comparative visual impact, visual flow, attention value, brand recognition, legibility and depth penetration of a package or package design. Originator of the dept. and inventor of the instruments is Alf Nelson, director of Crowell's package-design.



joined Atlantic Gummed Paper Corp., Brooklyn, as v.p. in charge of package engineering. He was formerly v.p. and mgr. of the New York div. of Container Laboratories, Inc., with which company he served for 17 years. Mr. Kipnees is a member of

Jerome J. Kipnees has

both the Packaging Institute and the American Society for Testing Materials. He is co-author of a recently published book, Industrial Packaging.

The Borden Co., New York, has acquired the Commercial Ink & Lacquer Co. of Fair Lawn, N. J. The newly acquired company, which makes gravure and flexographic printing inks and varnishes used in the packaging, laminating and furniture-finishing industries, will become the ink and lacquer dept. of the Borden Chemical Co.

Another phase of a comprehensive expansion program for 1960 has been begun by Cellu-Craft Products Corp., printer and converter of flexible-packaging materials, New Hyde Park, N. Y. (See Modern Packaging, March, 1960, p. 223.) The company is building a 40,000-sq.-ft. plant that will be equipped for the volume production of laminated and extrusion-coated films, foils and papers. In addition, the new facility will house rotogravure printing presses, constant-tension slitter-rewinders and a quality-control laboratory.



Fisher

In his new capacity as asst. to the pres. of Sun Chemical Corp. of New York, Mortimer A. Fisher will be responsible for analysis and integration of data on corporate, group and divisional operations. He was formerly comptroller and asst. gen. mgr. of Sun's Paints and Finishes.

Hercules Powder Co., Wilmington, Del., is negotiating to acquire the Imperial Color Chemical & Paper Corp. Approval of the proposed agreement by stockholders is pending.

Nick M. Ostazeski has been named sales mgr. of the beer and beverage container div. of Thatcher Glass Mfg. Co., New York.

Dr. George A. Kruder is the newly appointed director of research and development for Tee-Pak, Inc., Chicago. He was formerly director of research and development for Kordite Corp. Dr. Kru-



Another in a series of Hoerner Corrugated Shipping Container Experts



THIS IS THE HOERNER SPECIALIST FOR PACKAGING LIGHT THINGS

Lightweight items are just as prone to expensive shipping damage as heavier products. This Hoerner expert floats them in clever corrugated containers that ship them safely anywhere. If overweight packaging and shipping costs have you up in the air, just call the Hoerner plant nearest you. A Packaging Engineer will help bring them down to earth.



GENERAL OFFICES: 600 Morgan Street, Keokuk, Iowa • PLANTS: Fort Smith and Little Rock, Ark.; Des Moines, Keokuk and Ottumwa, Iowa; Danville, Illinois; Minneapolis, Minn.; Tupelo, Miss.; Springfield, Missouri; Sand Springs, Okla.; Sioux Falls, South Dakota; Fort Worth and Mission, Texas • ASSOCIATE: Cajas y Empaques Impermeables, S.A., Mexico City D.F., Mexico

Plants & People [Cont'd]

der will maintain headquarters at the Chicago plant of the cellulose casings manufacturer.

Stuart E. Kay, v.p. and director of International Paper Co., New York, has been named director of research. He will direct the operation of the company's research laboratories and also will be responsible for all research programs. Mr. Kay is succeeded as mgr. of mfg. for International Paper's Northern Div. by George H. Rand.

W. L. Davis becomes v.p. of The Flintkote Co., New York. Mr. Davis, also a Flintkote director, is pres. of the Hankins Container Div., a company purchased by Flintkote in 1958.

Donald H. Denholm is the newly elected exec. v.p. of Ames Bag & Packaging Corp., Selma, Ala. He was formerly with Chase Bag Co. Ames does custom packaging and also is a supplier of a wide variety of packaging materials and services.

Arenco AB of Stockholm, Sweden, packaging and processing-machinery manufacturer, has purchased the assets of Kisab AB of Gothenberg, Sweden. Kisab offers a line of package forming, filling and sealing machines. The Kisab equipment, available from Arenco Machine Co., New York, includes automatic-powder and granular-products filling and packaging machines, automatic tablet-wrapping machines and liquid-powder- and granular-products wrapping machines making heat-sealed packages.



Davis

The appointment of E. R. Davis as mgr. of the special projects laboratory of the Container & Chemical specialties Div. of Dewey & Almy Chemical Div. has been announced by W. R. Grace & Co., Cambridge, Mass. Mr. Davis, formerly asst. to the research director of the spe-

cialties div., has been with Dewey & Almy since 1955.

Swartz Mfg. Co., Dorchester, Mass., has entered the polyethylene-converting field. The company has constructed and has patents pending on equipment for thermal impulse sealing on polyethylene, vinyl and other thermoplastic films. Production speeds of the machines are claimed to exceed existing industry standards.

Adrian O. Holmberg is the new exec. v.p. of Miehle-Goss-Dexter, Inc., Chicago. Mr. Holmberg will have full responsibility for manufacturing activities of all MGD plants throughout the world, On the divisional level, James W. Coultrap takes over as pres. of The Miehle Co. Joseph A. Riggs moves to the post of chief exec. of The Goss Co., succeeding R. C. Corlett, who continues as MGD pres. Following the retirement of G. A. Heintzemann, F.

This is the West...



...and these are the western cities where S. Riekes & Sons have offices to serve you.

No matter what your packaging problem...glass, metal or plastic...you can get immediate, professional help from technicians at S. Riekes and Sons. Offices in western cities to give you quick, efficient, money-saving service.

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NEW

Slide Package Former finishes up to

3,000 BLISTERS per HOUR

Folds Both Edges At Once No Positioning Required Although the completely new Tronomatic Foldover outproduces all other available machines by as much as 10 to one, its operator requires no special training. The

blister, or strip of blisters, is simply placed on a conveyor chain and the machine does all the rest, including automatic ejection. The Foldover is the most flexible of

edge folders in adapting to blister sizes and in forming folds. All adjustments are simply and quickly made. Write to the address below for a specification sheet.



TRONOMATIC MACHINE MANUFACTURING CORP. / 25 Bruckner Blvd., New York 54, N.Y.

transparent cap

appetites

Oyster and Crabmeat Cans by Steel & Tin Products Company Feature Eye-Catching Midlon Acetate Tops.

Chicago-Leading packaging manufacturers, such as Steel & Tin Products Co., Baltimore, Md., report soaring demand for former "gourmet" foods such as oysters, thanks to eyeappealing modern packaging. The sparkling, attention-compelling MIDLON Acetate caps on this firm's seafood cans is a big factor in their increased volume, and indicates the advantages of MIDLON sheet in building the sales of your items.

Easily-formed, dimensionally stable MIDLON materials are available custom-cut to your

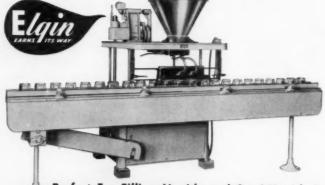


needs. Choose from cellulose acetate, butyrate, plus polystyrene, polyethylene, ABS and polypropylene. Prompt delivery from our central location. Our more than a quarter century of specialized experience is at your beck and call.



1801 CHICAGO POAD CHICAGO HEIGHTS, ILLINOIS

Exclusive...New Two-Cylinder Non-Stop Piston Filler



Perfect For Filling Liquids and Semi-Liquids into Polyethelene • Glass • Tin • Aluminum Containers

- Exclusive continuous filling High speed filling rate
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- · Easy cleaning
- Nickel alloy or stainless steel contact parts
- Agitator and special sizes cylinders available

Write today for complete specifications and low prices

ELGIN MANUFACTURING COMPANY 200 BROOK STREET, ELGIN 2, ILLINOIS

SPECIALISTS IN PRECISION PACKAGING EQUIPMENT FOR MORE THAN 60 YEARS

Plants & People [Cont'd]

Irving Walsh becomes pres. of The Dexter Co. Prescott Fuller, former secy.-treas., has retired. E. M. Abrams has been promoted to pres. of The Lawson Co., succeeding D. W. Schulkind, resigned. Gilbert W. Bassett has been promoted to v.p. of sales in The Miehle Co. Norman T. Steed has become v.p. of Miehle's Eastern sales.

Premotions

A. C. Elliott: to general-line sales mgr. of cans for non-processed food products, Eastern Metal Div., Continental Can Co., New York. In the company's Fibre Drum & Corrugated Box Div., Robert L. Lindemann becomes Buffalo district sales mgr., John D. Miley becomes Chicago district sales mgr., and Clovis C. Viguerie becomes asst, to the Southern district sales mgr., New Orleans.

W. M. Riegel: to Eastern special-accounts sales mgr., Riegel Paper Corp., New York. He is succeeded as Eastern regional sales mgr. by W. F. Collins.

L. A. Wulff: to asst. to the director of container sales, Union Bag-Camp Paper Corp., New York. J. H. Neale succeeds him as sales mgr. of the Chicago box plant. John D. Munford: to asst. director of the company's bleached-paper and board sales department.

Harold C. Caspers: to senior v.p., Einson-Freeman Co., Long Island City.
The company is a lithographer and
manufacturer of display materials.

Everett F. Bowden: to asst. to the pres., Forbes Lithograph Mfg. Co., Boston. He also continues as treasurer.

Appointments

Robert A. Kennedy: to asst. sales mgr., Celluplastic Corp., Newark.

George F. Murphy: from Minnesota Mining & Mfg. Co. to Chicago district mgr., Flint Ink Corp., Detroit.

C. Robert Scott: to sales mgr., Sweeney Lithograph Co., Belleville, N.J.

Robert S. McClintock, Jr.: from W. R. Grace & Co. to asst. to the pres., National Can Corp., Chicago,

Harry C. Lingle: to v.p. in charge of engineering and production, Paslode Co., div. Signode Steel Strapping Co., Chicago. Paslode manufactures stapling machinery and supplies. J. H. Elsinger: to Jacksonville, Fla., district sales mgr., Signode.

Milton I. Brand: from the Burroughs Corp. to director of product-planning services, Harley Earl Associates, design firm, Warren, Mich.

Obituaries

Kenneth A. Spencer, founder and board chairman of Spencer Chemical Co., Kansas City, died Feb. 19 from compli-





"NOW...THE PRODUCT SELLS ITSELF!"

New Kodapak contour envelope does everything but ring up the sale.

TAKE A LOOK at a new, different kind of package made of tough, durable, crystal-clear .0075" Kodapak Sheet. A package that not only shows the product—but tells the customer about it. One that not only lets him examine it—but, feel it without actually touching.

RESULT: Sales costs are low. The product—so packaged—does the selling. The retailer merely supplies counter space, checks sales, keeps stock.

AND THAT'S NOT ALL! No secondary inspection expense for manufacturer, wholesaler, or retailer. A glance checks count and quality.

TODAY: Packaging like this is helping more and more smart manufacturers move merchandise. Perhaps it can help your product, too.

For information just call our representative or write:

Kodapak Sheet

EASTMAN KODAK COMPANY Cellulose Products Division, Rochester 4, N.Y.

Sales Offices: New York, Chicago, Atlanta. Sales Representatives: Cleveland, Philadelphia, Providence. Distributors: San Francisco, Los Angeles, Portland, Seattle (Wilson & George Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.).

Plants & People [Cont'd]

cations which followed a heart attack he had suffered two weeks earlier. He was 58 years old.

Spencer Chemical had its beginnings in 1941, when the Federal government



Spence

accepted a plan by Mr. Spencer and The Pittsburg & Midway Coal Mining Co. to locate a synthetic nitrogen plant in Kansas. The Military Chemical Works, a subsidiary of the coal firm, was formed to construct and operate the Jayhawk Ordnance Works for the War

Department. When the war ended, the name of the company was changed to Spencer Chemical Co. and the plant was purchased from the government to commence commercial peacetime operations. Since 1946, the company has grown from one plant to six and annual sales have quintupled.

James Harley (Jim) Nash, package designer, died March 5 at his home in St. Thomas, Virgin Islands. He was 67 years old. The death of Jim Nash brings to a close the career of one of the packaging field's most colorful per-sonalities. His famous trademarks executed in a style so unmistakably identified with the man who created them-appear on packages for hundreds of famous brands known in every home: the Socony Flying Horse, the Swansdown Swan, the modernized Quaker on Quaker Oats, the Ken-L-Ration dog, the Colonial Stores' rooster and many others. His packages were many times top winners in Modern Packaging's former All-America Package Competition. Mr. Nash founded the firm of Jim Nash Associates and served as its pres. until retirement in 1958. He was also founder and three-term pres. of the Package Designers Council.

Harald H. Heinrich, retired pres. of the former H. H. Heinrich Co., died Feb. 27. He was 74. Mr. Heinrich, who was known in the converting industry as an authority on printing methods and bag making, pioneered many machines, processes and devices which have contributed to the growth of flexography.

Dr. Carl R. Fellers, 66, food-packaging technologist and retired head of the Dept. of Food Technology at the University of Massachusetts, died Feb. 22. Dr. Fellers was at one time a research bacteriologist on seafood for the National Canners Assn.

Robert E. Farney, independent packaging and distribution consultant, died Jan. 22 while on a business trip to Canada. He was 47. Mr. Farney, who served 25 years in the packaging and materials-handling fields, began his consultant practice about a year ago.

Michael P. Nester, v.p. of Obear Nester Glass Co., East St. Louis, Ill., is dead at 73. The company was founded by Mr. Nester's father.

Standard's marketing approach to packaging pays off...

in many unusual ways



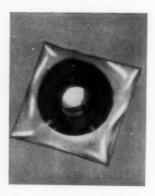
One-piece Aspirin-and-Chaser pack

A package of aspirin is no cure for a headache, until a man can get the tablets inside him. This is the reason for the unique aspirin and water-cup packet produced by Standard's Modern Packages Division. An envelope made of cellophane and polyethylene is heat-sealed into two compartments. The upper contains two aspirin tablets. The lower tears off to form a drinking cup. Packs are attached to printed hang cards and displayed on wire counter racks. "Selling on sight," stores say.



New cap revolutionizes Ozalid packaging

Ozalid, a highly sensitive reproduction paper, was formerly packed by hand. Now it's 100% machine-packaged. And the key to the whole process turned out to be, of all things, a milk bottle hood. Standard's Closures Division simply applied the same principle, came up with a Grandad-size hood that's machine-popped onto each end of roll-wrapped Ozalid pack. Result: superior packaging at vastly reduced cost.



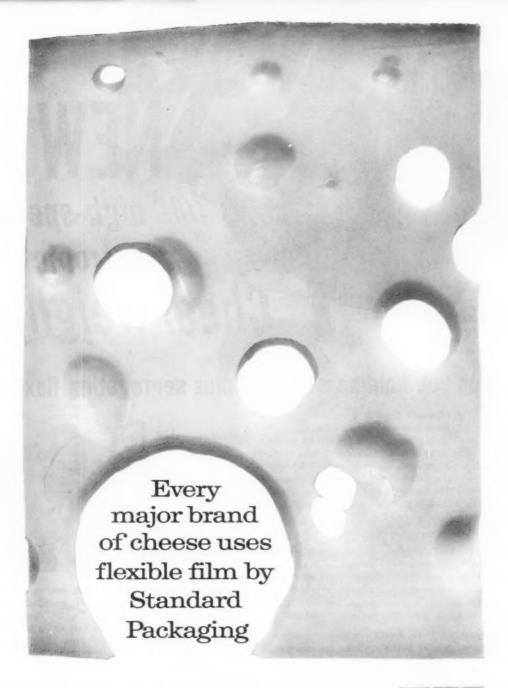
Packaging world's most powerful sea-marker

Problem: to create a package for Union Parts Manufacturing Co. that would dissolve and release its dye content almost instantaneously upon contact with sea water, yet remain impervious to the moisture on a man's palm. Standard's Flexible Packaging Division came up with the solution: a polyvinyl alcohol package that dissolves in 30 seconds, yet withstands handling, packing, loading, and humid conditions aboard seagoing craft.

FILM • FOIL • PAPER AND BOARD PACKAGING • PAPER PLATES • CUPS • BOWLS AND TRAYS • FINE PRINTING AND BUSINESS PAPERS • PAPERBOARD AND PULP STOCK

ALL FROM ONE COMPLETELY INTEGRATED, CONVENIENT SOURCE:

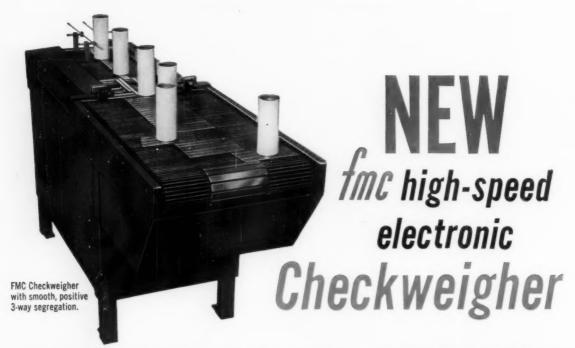
STANDARD PACKAGING CORPORATION



Standard took a marketing look at the packaging of sliced natural cheese. Housewives insisted packaging must keep cheese better and longer. Retailers wanted appetite appeal and good visibility to spark impulse buying. Cheese packers demanded production speed and sealed-in freshness. That way, they could offer more varieties; enlarge distribution areas. • Standard's flexible film packaging made everybody happy, sent cheese sales soaring. • Are you satisfied that your product has reached its full selling potential? If not, perhaps Standard Packaging's marketing approach can help.







... gives you hairline accuracy plus segregating flexibility

Whatever your requirement there is probably an FMC Checkweigher to provide close and accurate control of your production. Speeds up to 400 containers per minute handle the output of most production lines. And with three basic reject methods to choose from, for both 2-way and 3-way segregation, the ideal system for your problem and package can be engineered. The result is a precision piece of equipment perfectly matched to your production requirements.

Accuracies up to $\pm \frac{14}{9}$ of the total package weight are possible with all three segregation methods:

3-Way Segregation — This system is recommended for open packages and tall containers. After the package is weighed and classified, the metal slats of the conveyor move the package straight ahead or ease it to the right or to the left, depending upon whether it is acceptable, underweight or overweight. The action is positive, yet smooth and gentle.

2-Way Segregation with Air Reject —With this system a jet of air removes rejected containers from the conveyor. It is most effective with small, closed containers and can be adjusted to reject either underweights, overweights, or both.

2-Way Segregation with Lever-Arm Reject—Recommended for heavier, closed containers, this system offers the same three reject choices as the air system.



FMC Checkweighers handle cans, jars, trays or boxes-virtually any semi-rigid container with one flat surface ranging in size from $1\frac{1}{2}$ " x $1\frac{1}{2}$ " to 10" x 10". They are splash-proof, easy to clean, and occupy only 48" x 24", with the height adjustable to fit production lines. The electronic system is mounted on a single plug-in chassis and housed in a slide-out drawer for easy maintenance.

In addition to the basic equipment, the checkweigher can also be equipped with a feedback control, recording devices to produce a printed record of production, and specialconstruction models for dusty or explosive conditions.

For complete information about versatile FMC checkweighing systems, call your FMC representative or write:

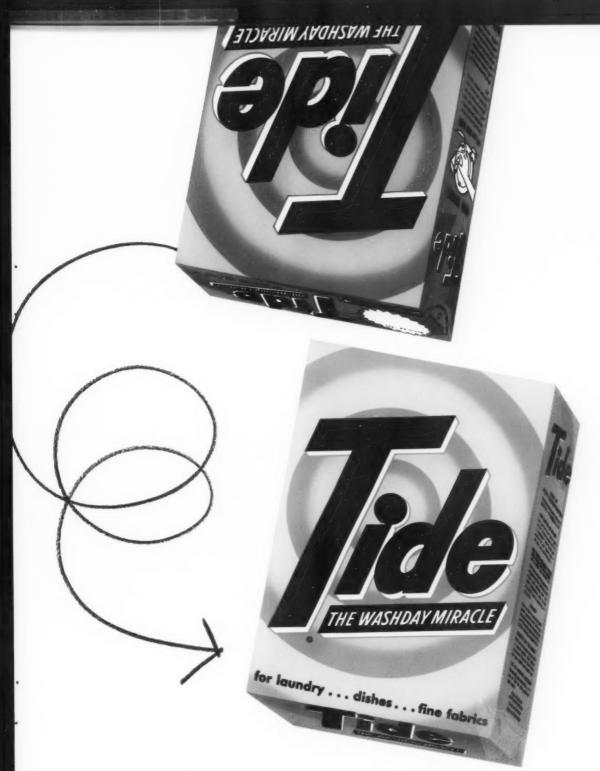


Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

FMC Packaging Machinery Division

Stokes & Smith Plant 4904 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.



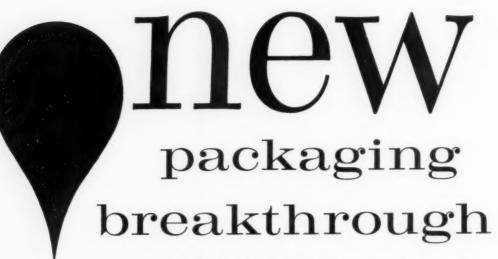
Tide Turns to Day-Glo

The before-and-after illustrations show why Procter & Gamble is using Day-Glo fluorescent red-orange on the new Tide package.

If this comparison looks exaggerated, a trip to the supermarket will convince you that Day-Glo has given the Tide carton a glowing new dimension. Note how the clean, vibrant Day-Glo color appears to radiate from within.

If you want to know how Day-Glo fluorescent color can add more bounce to your packaging, write or call for more information. Eight brilliant colors are available for gravure, letterpress, lithography or silk screen. SWITZER BROTHERS, INC., 4732 St. Clair Avenue, Cleveland 3, Ohio.

*Registered trademark of The Procter & Gamble Company





Switzer Brothers, Inc. salutes the carton manufacturers who combined printing know-how with the brilliance of Day-Glo fluorescent color to achieve a new packaging concept.

If you would like to explore possibilities in packaging your product with Day-Glo, you may want to contact one of these carton manufacturers who are printing the Tide cartons by the process indicated:

PACKAGING CORPORATION of AMERICA Ohio Boxboard Division Rittman, Ohio (Gravure)

ALTON BOXBOARD COMPANY

Carton Division

(Gravure)

Godfrey, Illinois

DIAMOND NATIONAL CORPORATION

The Gardner Division

Middletown, Ohio

(Gravure)

(Gravure)

CHICAGO CARTON COMPANY

Chicago 32, Illinois

CONTINENTAL CAN COMPANY, INC.

CONTAINER CORPORATION of AMERICA

Folding Carton Division

(Gravure)

Oaks, Pennsylvania

Robert Gair Division

THE INTERSTATE FOLDING BOX CO. Middletown, Ohio

Southern Packaging Division Los Angeles 58, California

THE NEW HAVEN BOARD & CARTON CO.

FIBREBOARD PAPER PRODUCTS CORP.

Bartgis Division

Baltimore 28, Maryland

Piermont, New York (Gravure)

YOU CAN USE DAY-GLO REGARDLESS OF PRINTING METHOD OR QUANTITY

Although the Tide cartons are now being printed by gravure and letterpress, fluorescent printing inks are also available for lithography and silk screen processes.

ITZER BROTHERS, INCORPORATED
4732 ST. CLAIR AVENUE . CLEVELAND 3, OHIO

Sales Offices: Berkeley and Los Angeles, California; Chicago, Illinois; New York, New York

VISIT US AT THE NATIONAL PACKAGING EXPOSITION, BOOTH No. 1423, CONVENTION HALL, ATLANTIC CITY, APRIL 4-7

- Mercury Merk A-2 STOCK ROLL UNIT
- 2 Mercury Mark C-2
 PREFEEDING AND DECURLING
 UNIT
- Mercury Mark R-2
 FLEXOGRAPHIC PRINTING UNIT
- Mercury Mark D-3
 OUTFEEDING UNIT WITH SLITTER
 ATTACHMENT
 - Mercury Mark W-5
 REWINDING UNIT
 - Mercury Mark K
 CUTTING AND CREASING UNIT
 - Mercury Mark V-2
 STRIPPING AND DELIVERY UNIT

the MERCURY way to better
FLEXOGRAPHIC
production of folding cartons

... designed to do a specific job better than it has ever been done before

Whatever your converting problem may be, there's a "MERCURY WAY" to solve it



A SYMBOL OF FINE CRAFT SMANSHIP

MERCURY

ENGINEERING CORPORATION
A SUBSIDIARY OF MICHLE-GOSS-DEXTER INCORPORATED

2100 N. FARWELL AVE. . Milwaukee 2; Wis., U.S.A.

Equipment & Materials

[Continued from page 52]

grades of the material. Increased volume of business plus improvements in manufacturing techniques have made the price cuts possible, says the supplier. Biaxially oriented polystyrene sheet is reported to provide a high yield material at low cost for formed containers, including blister packs. Suggested for use in food-packaging applications, the material also possesses the properties of high clarity, dimensional stability and non-toxicity, reports Plax Corp., Hartford, Conn.

Powdered polyethylene for packaging use

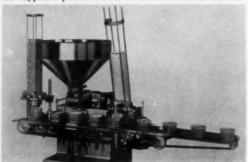
U. S. Industrial Chemicals reports the start-up of commercial domestic production of Microthene, a powdered polyethylene with a variety of applications in packaging. According to the supplier, the product can be used to coat corrugated board, paper, glass, metal containers and other materials. It also can be used in the field of plastic moldings, particularly large ones, says the company. In this application, such items as polyethylene shipping drums can be formed in inexpensive molds, the supplier says. Two different types of the finely divided polyethylene are now available. They are a low-density, high-melt-index material and an intermediate-density, medium-melt-index material. Each is made by two different processes. One, a solution process, produces rounded polyethylene in the smaller-than-200-mesh range. The other process, mechanical grinding, produces polyethylene in a coarser range (50-to-200-screen mesh). Introductory prices are: 65 cents per lb. for the finer size range and 40 cents per lb. for the coarser powder. Initial production has begun at a 2,000,000-lb.-per-year plant in Tuscola, Ill. For additional details, contact U. S. Industrial Chemicals Co., Div. National Distillers & Chemical Corp., 99 Park Ave., New York 16.

20-per-minute case former

Up to 20 shipping cases per minute can be formed on the new Caral shipping-case former, reports Caral Packaging Machinery. The automatic unit adjusts to standard or special case sizes. It is claimed to be adaptable to all standard shipping-case packer machines with a minimum of modification. Cases are loaded at floor level and are formed from the top of the stack. Magazine capacity is limited only by floor space. Reliability and smooth, jam-free operation are among the other features which are cited by the supplier for the new shipping-container former. Caral Packaging Machinery, Inc., Albany, Calif.

New line of filling machines

A completely new line of equipment for filling nesting-type round cups has been released by Anderson Bros. To be known as the Model 340 series, the new units will replace the supplier's present Model 34 series. Shown is the com-



pany's standard Model 340. It is equipped with a 20-gal. hopper, hopper cover, variable-speed drive, casters, leveling legs and a screw-type cup dispenser. Other models in the new line are the 340-1, 340-2 and 340-3. The 340-1 has no hopper and is used only for direct gravity-fill operations. It is suggested for use by packagers of cottage cheese and similar products. The other two units are economy models of the basic machine. Smooth, accurate fill 'is assured on all four models, says the supplier. Each model in the series can handle a full range of nesting-type round cups from 8 to 32-oz. capacity. Change-over to a different size is reported to take only a few seconds. All models have a no-cup, no-fill safety device. Simplicity of design, easier servicing and lower maintenance costs are other features cited for the new series. For additional data, contact Anderson Bros. Mig. Co., Rockford, Ill.

Bagger operable by the blind

A semi-automatic small-parts bagging machine, designed to be operated by blind or otherwise handicapped workers, is

offered by Tele-Sonic. According to the supplier, the unit enables such workers to attain high-speed production. In operation, the new machine gravity feeds pre · measured parts into an open film bag when the worker operates the pivotmounted funnel. Special fingers at the bottom of the parts-holding funnel automatically



enter the open-top bag, directing the contents into the bag and preventing spillage. The filled bag then is removed from the magazine for closure. Among the labor-saving characteristics of the machine is that it can be operated with one hand. To facilitate product filling, a jet of air from the bagger's internal blower automatically opens each bag top as it is fed from the magazine. Tele-Sonic Packaging Corp., 208 W. 27 St., New York 1.

New polyethylene shipping bag

Owens-Illinois reports that it will begin production this year of a heavy-duty polyethylene shipping bag for industrial and agricultural products. Full production is scheduled for late summer. The supplier reports that the bag offers exceptional strength, eye appeal and effective protection against moisture and contamination by chemicals and other substances. Other features cited for the plastic shipping bag are savings in package and transportation costs and reduced storage-space requirements. The bag will be of the extruded blown film type. It can be printed with multi-color designs for attractive package appearance. Owens-Illinois Glass Co., Toledo 1, O.

Corrugator's tape and label paper

Nashua is offering to packagers and container manufacturers two new materials. They are Peelac peelable corrugator's tape and DAVAC AP, an all-purpose, adhesive-coated label paper. The former item is a water-activated tape which is applied to cartons by the boxmaker. It is reported to provide a strong, secure bond at joint and closure points, yet may be stripped off cleanly without damaging

Unlimited Variety and Grade Combinations*

make THILCO PAPERS

your ideal choice for better packaging of Food Products!

FOR EXAMPLE: Here are three grades (from literally hundreds) we produce for leading food processors



SWISS MISS — Finely powdered instant cocoa mix has its natural flavor sealed-in and is protected from "moisture caking" in individual service size packets made from a special grade, heat sealable Thilco Pouch Paper. This attractive 2-color Print-Decorated pouch grade for Sanna Dairies Inc., combines the finest quality bleached white M.G. Kraft with Polyethylene for maximum protection from moisture-vapor transmission. Poly heat-sealing qualities permit high speed automatic machine packaging.



LEA & PERRINS - Thanks to a special Thilco paper grade, Lea & Perrins is now able to package its famous Worcestershire Sauce bottle on automatic wrapping machines instead of by costly hand-wrapping. New wrapper created by Thilmany is a "custom" lightweight, Tan colored Kraft attractively Print-Decorated in red and blue, and Poly coated on the reverse side for extra durability and machine heat-sealing. Electric eye web imprint symbols accurately position print design labeling and control wrapper length cut-offs.



E-Z JELL - Dessert Powders are noted for their fresh, natural fruit flavors. To safeguard this reputation, the Enzo Jel Company of Sheboygan, Wisconsin packages their products in a Thilco carton liner paper which features a wax-laminated glassine type grade that permits air-tight folding and heat-sealing when processed on high speed automatic packaging machines. This special grade is unusually high in M.V.T. tensile strength. The food and flavor preservation qualities of these liners insures Enzo Jel of product freshness wherever sold.

From Thilco's complete integrated mill facilities comes a steady stream of food packaging papers in endless variety and grade combinations of glassines, grease-proofs, waxed thermoplastics, foils, cellophane, polyethylene and many others. Add to these Thilco's bulk packaging papers and heavy-duty shipping wraps and you can readily see why so many food processors depend on Thilmany to solve their particular packaging problems. Chances are you will find the protective paper best suited to your needs in one of our countless standard grades — but if not, we'll be happy to create one for you. Contact us today.

Plus full color Print-Decorating as desired —

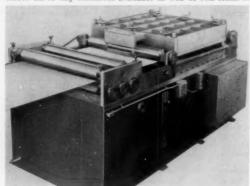


Equipment & Materials [Continued]

carton surface or contents. This factor, says the supplier, not only satisfies user demands for a tape which facilitates damage-free carton opening, but also makes possible the use of shipping cartons for tray stocking of shelves and for attractive in-store display of many different products. The company's new label paper is claimed to guarantee excellence of labeling both in high humidity and in dry atmospheric conditions. It is reported to have a high blocking point, which eliminates the problem of labels sticking together under high humidity conditions. Built-in non-curl qualities prevent cracking or curling of label stock during storage, says the supplier. Nashua Corp., Nashua, N.H.

50-in. die-cutting web-fed press

Adaptable to paper, plastic and metal stock is Karr Engineering's new automatic, multi-purpose, high-speed diecutting press for blanking, punching and scoring. The Model P-50 handles a 50-in.-wide web of stock, ranging from 0.0005 in. to any thickness available in web or roll form. It



is designed for use in the production of corrugated cartons, folding boxes, food trays, milk and cereal cartons and various other container forms. The press is reported to be capable of producing 12,000 sheets (50 by 50 in.) per hour. Minimum waste and positive safety controls are among the features cited for the machine, which can be operated by unskilled personnel. The new unit can be furnished with printing attachments for printing one or both sides of the web in one or more colors. Embossing equipment, stitchers and gluers also are available. Karr Engineering Service, 2920 W. Clybourn St., Milwaukee.

Reprocessed polyethylene pellets

A 20% saving in rawmaterial cost is one of the advantages claimed by Interplastics for Poly-pellets, reprocessed polyethylene in dense pellet form. The material is produced from segregated film scrap via a specially developed cutting and densifying system. It reportedly can be conveyed or screw fed into injection machines, blow-molding machines or into extruders, for conversion into high-quality film or sheet products. The company reports that it also is producing polyethylene pellets for plastic-scrap processors who do not have sufficient volume to install a complete pelleting system. Interplastics Corp., 120 E. 56 St., New York 22.

Web-splicing attachment

A low-cost, compact attachment for automatically splicing the leading edge of a new roll of material to the tail end of the depleting roll is offered by Butler Automatic Machine. The supplier's new SU series of web splicers also is said to be universally applicable to all web-consuming machines that handle webs up to 25 in. wide. The self-containing attachment is installed on the frame of the parent machine. Among the features cited for the new attachment are that it trims the depleted-roll edge with an automatic knife and limits the extension of the spliced tail to one spliced panel. The attachment is reported to be easy to install. Butler Automatic Machine, Inc., Cambridge, Mass.

Multiple-stroke filling attachment

National Instrument has developed a new multiple-stroke attachment which is claimed to extend by 19 times the

filling range of any liquid-filling machine. The attachment is shown mounted on a Model DAB-16 Filamatic vial filler in the illustration. The attachment consists essentially of a specially designed automatic - reset predetermining counter which can be pre-set for any number of cycles up to 19, depending on the volume



of the liquid to be dispensed. To start the filling cycle, the operator depresses a foot switch. When the pre-set count is reached, the machine comes to a stop automatically. National Instrument Co., 2701 Rockwood Ave., Baltimore 15.

Four-side sealing of film packages

A new, low-cost polyethylene packaging machine that seals all four sides of a film package in one motion is offered by Seal A Round. The semi-automatic unit requires no skill to operate, says the supplier. Using continuous centerfolded polyethylene roll stock, the operator places the item to be packaged between two layers of folded film, pulls it across a sealing station and, with one motion of the handle, heat seals all the open sides. The form-fitting package is completely sealed without additional operations. According to the supplier, the machine offers substantial savings in labor and handling costs, as well as in packaging-material costs. The company points out that only enough film is used as is needed; there is no waste. Various sizes and shapes of product can be packaged on the unit. Seal A Round Corp., 2024 S. Wabash Ave., Chicago.

Hand-feed single-valve filler

A compact, single-valve hand filler, which is reported to be adaptable to a broad range of liquid or viscous products, is offered by Elgin

Mfg. The new unit also is claimed to be suitable for the filling of "boil-inthe bag" products and for other special filling needs, particularly in the frozen-food field. In addition to foods, such products as paints, oils and cosmetics can be accommodated on the new unit. says its manufacturer. Container



sizes up to 32 oz. can be handled on the standard model. It is designed for use primarily by packagers with low or moderate production, or in situations where frequent product and container-size change-over is necessary. The machine is available with a reservoir or manifold feed. Said to be easy to clean, it occupies 24 by 36 in, of floor space. Elgin Mfg. Co., Elgin, Ill.

Non-woven plastic netting

Said to have a packaging potential as shock-absorbing protective shipping wrap is Reeves Brothers' new non-woven plastic netting. Available in either polyethylene or polypropylene forms, the material is made by a technique of perforating and expanding. A flat strip of the basic material,



Plastics Packaging Pays for Itself

Every salesman knows the striking success the right packaging can give to a product. In America leading firms spend large sums of money on developing new packaging styles for branded articles and in this way greatly increase their turnover.

Plastics have proved useful helpers in creating new packaging. Their employment opens great possibilities for packaging goods attractively and economically. Here is a list of their advantages: lustrous surfaces; the incorporation of a wide variety of brilliant colours; resistance to water, acids and salts, alkalis and other chemicals; tastelessness and odour-lessness; and suitability for large scale production.

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Equipment & Materials [Continued]

measuring ¼ in. thick and 10 in. wide, is further flattened, then perforated with staggered slits. When the perforated material is pulled at right angles to the slits, it opens up into a web or netting. According to the supplier, the material has a breaking strength of 40 lbs. per sq. in. in the filling direction and 100 lbs. or more per sq. in. in the warp direction. Further information can be obtained from Reeves Brothers, Inc., 1071 Sixth Ave., New York 18.

Can beaded for greater strength

Continental Can has developed a No. 303 can with a beaded body construction, designed for use by canners of fruits and



vegetables. According to the supplier, the strength-promoting beaded construction increases panel resistance, reduces shipping and handling damage and thereby reduces the incidence of dented or out-of-round containers. Tests reveal that there are no problems in label application, says the company. The open-top cylindrical metal can is being offered to packagers at no increase in price over the unbeaded can of the same size. At present, the strong, beaded can is available for

use in the packaging of such products as apples, citrus fruits, peaches, peas, corn, beans and tomatoes. Continental Can Co., 100 E. 42 St., New York 17.

Protective parchments for packaging

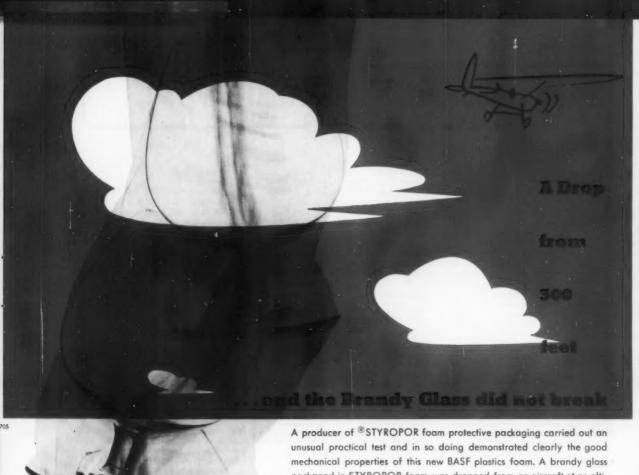
Two new protective parchment grades for use in packaging are available from Paterson Parchment. They are an oilbarrier parchment and a parchment paper which is release treated on one side and glueable on the other. The former is designed for the packaging of oiled metal parts and other items involving exposure of paper to grease and oil. Designated 35-41T, the material is said to resist the penetration of oils and solvents and to inhibit the tendency of oils to spread along paper surface. The lightweight vegetable parchment, which also can be used as an outside label for spiral tubes or cans, reportedly can be glued with conventional adhesives. The supplier's new Patapar releasetreated parchment is suggested for such applications as the lining of cores of pressure-sensitive tapes or in the packaging of tacky products. The company also reports that Patapar vegetable parchment has been accepted by the Food & Drug Administration as meeting the requirements of the 1958 Food Additives Amendment to the Federal Food, Drug & Cosmetic Act. For more information, contact Paterson Parchment Paper Co., Bristol, Pa.

Removable labeling adhesive

Rubba-Peel is Rubba, Inc.'s labeling adhesive which is claimed to eliminate the need for pressure-sensitive labels on polyethylene, polystyrene, metal and other surfaces. According to the supplier, the adhesive permits instantaneous adherence of removable labels. Applied by brush or machine, the material reportedly assures a fast, firm bond, yet permits labels to be peeled off easily without leaving sticky adhesive residue. Rubba, Inc., 1015 E. 173 St., New York 60.

Portable wire-stitching unit

Now available from General Staple is a portable wire-stitching machine. It makes and inserts staples from a coil of wire. According to the supplier, a 5-lb. coil of wire can be converted into approximately 60,000 staples on the new machine, at a cost of three to five cents per thousand. The new unit can be actuated by foot switch or microswitch, and is available with single-trip or multiple-trip clutch. General Staple Co., 28 E. 22 St., New York 10.



A producer of **STYROPOR foam protective packaging carried out an unusual practical test and in so doing demonstrated clearly the good mechanical properties of this new BASF plastics foam. A brandy glass packaged in STYROPOR foam was dropped from an aircraft at an altitude of 300 feet — without a parachutel The glass survived the fall: this was no "crash" landing. The unbroken glass is convincing evidence that STYROPOR foam damps out very heavy impacts by its elasticity. STYROPOR foam has other no less important advantages for the packager: it is not affected by moisture, resistant to acids alkalis and brine, odourless, mildew proof and has good aging characteristics. Further advantages are its outstanding insulation against heat and cold and its low density (about 1.25 lb/cu ft) which saves freight costs.

These properties recommend STYROPOR foam packaging in particular for goods sensitive to impact and extremes of temperature. Blood plasma, for instance, retains the required temperature for long periods in this new packaging material, and STYROPOR foam packaging has proved outstanding in the transport of easily breakable goods such as glasses and bottles, watches, porcelain and delicate instruments.

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For Your Information

According to the Collapsible Tube Mfrs. Council, 1959 sales of collapsible metal tubes increased by 14% from the previous year's total of 1,004,947,488. Projections for 1960 indicate further production gains in fold-up metal tubes for packaging, reports the Council. The greatest gain has been in the cosmetics field, where a 33% increase from the 1958 total has been registered. In pharmaceutical and medical packaging there was a 22% increase in the number of tubes used. The largest users of squeezable metal tubes, toothpaste manufacturers, purchased 13% more units in 1959 than they did in 1958, the Council reports.



At its 29th annual meeting, the Glassine & Greaseproof Mfrs. Assn. re-elected F. S. Leinbach as chairman of the organization for 1960, Guy E. McCorison was re-appointed vice chairman. Charles H. Leach will continue as secy.-treas. of the association. Mr. Lein-

bach, pres. of Riegel Paper Corp., is also active in the American Paper & Pulp Assn. Mr. McCorison is chief exec. of Thilmany Pulp & Paper Co.

career-guidance brochure titled, "What You Should Know About Career Opportunities Offered by the Pulp & Paper Industry," has been issued by the Technical Assn. of the Pulp & Paper Industry. The booklet, aimed at students and technical graduates in science and engineering and related fields, outlines career opportunities in the industry. The 36-page, illustrated booklet is available upon written request to TAPPI headquarters, 360 Lexington Ave., New York.

According to figures recently released by the Glass Container Mfrs. Institute, glass-container shipments in 1959 reached an all-time high. Sales of new glass containers by the 31 GCMI member firms totaled 19.7 billion units last year, an increase of 6.5% from 1958. Marked gains were scored in the nonreturnable beer-bottle category, which showed a 17.1% increase from 1958 shipments. Use of glass containers for household and industrial chemicals rose by 15.1% A 2.5% increase in the use of glass for packaging food also was reported.

new book, Industrial Packaging, which stresses the latest equipment and methods as an important cost element of the packaging function, has been published by John Wiley & Sons. The most recent publication in Wiley's materials-handling and packaging series,

the 536-page volume was written by Walter F. Friedman of the Dasol Corp. and Jerome J. Kipnees of Atlantic Gummed Paper Corp. According to the authors, the purpose of the book is to "establish criteria whereby the packaging of a given product can be effected on an engineering basis and controls can be established to maintain consistently a satisfactory level of product protection at minimum cost." Copies, at \$11.50 each, are available from the publisher at 440 Fourth Ave., New York 16.

New officers were elected at the annual meeting of Midwest Converters Assn. They are: pres., Daniel Mayworm of Tower Packaging; v.p., John Farrell of Crystal Tube Mfg.; secy., Elmer Sorensen of Queen Transparent Specialties, and treas., S. R. Raike of Rollprint Products.

The U. S. Dept. of Commerce has issued a Census of Manufactures report on the paper-bag industry. The figures given represent general statistics for the industry covering the years 1954 through 1958. Single copies of the report are available at a charge of 10 cents each from U. S. Dept. of Commerce field offices or from the Bureau of the Census, Washington 25, D. C.

Harry Bull, packaging coordinator of The Dow Chemical Co., has been named "Packaging Man of the Year" by the Packaging Society of Michigan State University. At the society's annual banquet on March 15, he received the award, for "outstanding contributions to packaging education and advancement of the packaging profession.'

National Assn. of Printing Ink Makers is now accepting nominations for the seventh annual Ault Award. It will be presented May 18, at the association's annual banquet in Asheville, N.C. The Ault Award is given to the person adjudged as having made the most distinguished contribution to the printingink industry during the past year. Ballots and additional information may be obtained from NAPIM, located at 1440 Broadway, New York 18.

Karl Weik of Cello-Foil Products was re-elected pres. of the Flexographic Technical Assn. at the group's second annual meeting at Palmer House in Chicago. At the same time, two additional members were elected to three-year terms on the board of directors: Russell J. Tapleshay (The Dobeckmun Co.) and Thomas S. Williams (Dixie Wax Paper Co.).

A compilation of the individual annual outlook studies for 1959 on 89 selected U. S. industries has been published by the Business & Defense Services Administration of the U.S. Department of Commerce. Titled The U. S. Industrial Outlook For 1960, the 304-page, paper-bound volume offers a review of 1959 business and prospects for 1960. The chapter on containers and packaging covers background data, statistics and production trends for a variety of packaging types, including metal, glass, paper, fibre and converted flexible packaging. Copies, at \$1.50 each, are available from U. S. Government Printing Office, Washington 25, D. C.

The new Exhibition Palace in Paris will be the scene of the Sixth International Exhibition of the Paper, Printing & Graphic Arts Industries, April 29 through May 8. More than 600 manufacturers will display machinery, equipment, accessories and supplies used in the papermaking and printing industries. According to the sponsors, 85% of the exhibition will be occupied by participants from abroad.

Four topical professional member seminars have been scheduled for 1960 by the Packaging Institute. Attendance is limited to professional members of PI and to those who have applied for professional membership. Leading off will be a seminar on glass containers on

Events

April 4-7-American Management Assn., 29th annual National Packaging Exposition, Convention Hall, Atlantic City, N.J.

April 19-21-Research & Development Associates, Food & Container Institute, 14th annual meeting, Congress

Hotel, Chicago. April 20-27-Interpack, International Packaging Exhibition and Display of

Confectionery Machinery, Düsseldorf. April 25-27—Lithographers & Printers National Assn., 55th annual convention, Boca Raton Hotel & Club, Boca Raton, Fla.

April 27-28-Fibre Box Assn., 21st spring meeting, Edgewater Beach Hotel, Chicago.

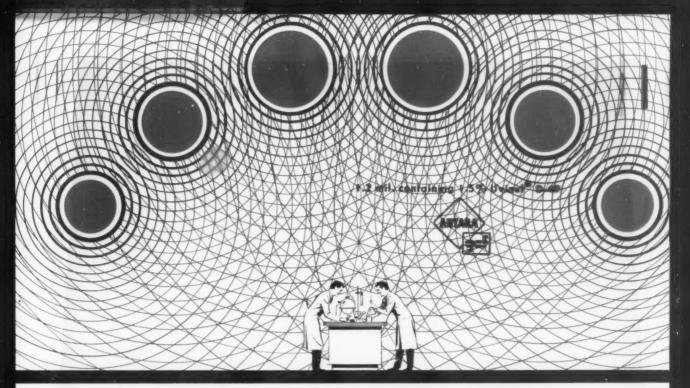
April 29-May 8-Sixth International Exhibition of the Paper, Printing & Graphic Arts Industries, Paris.

May 1-4-Super Market Institute, 23rd annual convention, Convention Hall, Atlantic City, N.J.

May 11-13-Society of the Plastics Industry, national plastic molders and suppliers conference, Hotel Americana, Bal Harbour, Fla.

May 11-13-Third Western Regional Material Handling & Industrial Packaging Show, Great Western Exhibit Center, Los Angeles,

May 16-18—Chemical Specialties Mfrs. Assn., 46th mid-year meeting, The Drake Hotel, Chicago.



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surface. After exposure, compare the protected and unprotected portions, respectively. To prepare a liquid for this test, pour equal portions into two identical, clear glass bottles and wrap one bottle with the filter sheet.

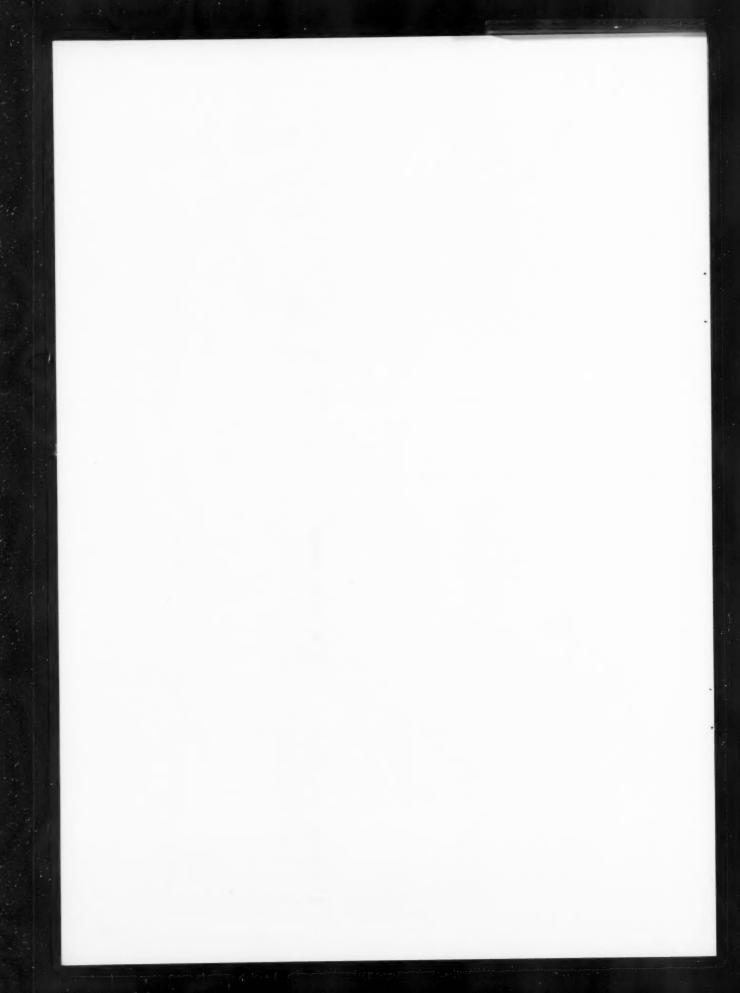
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April 12 in New York. Irwin R. Sipherd will serve as moderator. Next will come a seminar on aerosol packaging, June 1 in New York, with Fred T. Pickerell moderating. The folding-carton field will be covered at a session to be held Sept. 14 in Chicago. Moderator will be Patrick Toensmeier. Resins and their packaging applications will be examined at a meeting to be held Sept. 28 in New York. Ross C. Reed will moderate. Registration fee for each seminar is \$25.

PI also is planning a revision of its "Glossary of Packaging Terms" in preparation for the third edition of this reference manual.

Entries are being accepted for the 1960 Annual Corporate and Professional Awards of the PI for outstanding contributions to packaging technology. Deadline for submission of nominations is May 15. Complete details and entry forms may be obtained from the institute at 342 Madison Ave., New York 17.

"How to Increase Your Profits Through More Effective Packaging" was the theme of the First Central New York Packaging Exposition, held in the Rochester Community War Memorial Building, Jan. 12-14. It was sponsored by Dygert & Stone, Inc., Rochester, a convertor of flexible packaging machinery and distributor of packaging machinery and materials. The show included a total of 52 exhibits by manufacturers of packaging machinery and equipment. Howard Dygert, pres. of Dygert & Stone, reports that the exposition will be a biennial event.

At its recent annual meeting in Monterey, Calif., the Western Food Processors Assn. voted to change its name to California Freezers Assn. According to newly elected pres. Howard Lemon, the new title is more descriptive and provides instant identity with the state of California.

R. B. Vogt of Thilmany Pulp & Paper has been re-elected pres. of Waterproof Paper Mfrs. Assn. Robert W. Hannah of Albemarle Paper Mfg. retains the post of v.p. Feature speaker at WPMA's annual meeting was Jerome J. Kipnees of Atlantic Gummed Paper Corp.

Four new members have accepted appointments to the Paper Technology Advisory Committee at Western Michigan University. Named to the committee are: Leonard R. Growdon, Mead Corp.; E. J. Gilman, Allied Paper Corp., and Robert D. Caine and Edward E. Stephenson, both of KVP Sutherland Paper Co.

Current trends and the prospects that lie ahead for the graphic arts industry will be explored at the 55th annual convention of the Lithographers & Printers National Assn., April 25-27. Analysis of the industry's 48% sales increase over the past six years will be another feature of the meeting, at the Boca Raton Hotel in Boca Raton, Fla.

PACKAGE



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U. S. Patents Digest

This digest includes each month the more important patents of interest to packagers. Copies of patents are available from the U. S. Patent Office, Washington, D. C., at 25 cents each in currency, money order or certified check. Postage stamps are not accepted, Edited by H. A. Levey.

Method of and Apparatus for Making Plastic Containers, John H. Friden (to American Can Co., New York, a corporation of New Jersey). U.S. 2,919,462, Jan. 5. Apparatus for making hollow articles from tubing formed of plastic material which comprises clamping means for pinching one end of a section of tubing to grip the same and effect a seal at said end.

Carton-Slitting Device, Kenneth H. Brownlee (to The Meyercord Co., Chicago, a corporation of Illinois). U.S. 2,919,488, Jan. 5. A carton-slitting device for slitting the corner edges of a carton, comprising a support, stationary blade means mounted on said support and a pair of opposite cutting edges.

Can-Packaging Machine, Edwin L. Arneson (to Federal Paper Board Co., Bogota, N.J., a corporation of New York). U.S. 2,919,526, Jan. 5. A machine for forming a package which is characterized by a group of generally cylindrical articles arranged in rowforming relation and enclosed in a paperboard wrapper.

Seam-Indexing Device for Can Bodies, Nelson Geertsen (to American Can Co., New York, a corporation of New Jersey). U.S. 2,919,788, Jan. 5. In a machine for making can bodies having side seams, means for advancing a tubular can body having a longitudinal side seam in an endwise direction along an elongated support.

Bag Machinery, Lige Coakley (to Bemis Bro. Bag. Co., St. Louis, a corporation of Missouri). U.S. 2,919,789, Jan. 5. Apparatus for accumulating flexible flat articles, such as bag tubes, comprising a first conveyor for receiving the articles one after another from a source with the articles lying on the conveyor in overlapping relation and for feeding the articles forward.

Machine for Treating and Sorting Can Bodies, William Pechy (to American Can Co., New York, a corporation of New Jersey). U.S. 2,919,801, Jan. 5. A machine for progressively inspecting for imperfections the interiorly coated surfaces of cylindrical container bodies.

Container, Donald L. Richter (to Kaiser Aluminum & Chemical Corp., Oakland, Calif., a corporation of Delaware). U.S. 2,919,826, Jan. 5. A knocked-down cargo container comprising, when assembled, the combination of top, bottom, end and side panels, each of said panels also including edgereinforcing means.

Paperboard Carrier Incorporating a Removable Indicia Panel, Homer W. Forrer (to Mead Packaging, Inc., a corporation of Ohio). U.S. 2,919,829, Jan. 5. A carton for carrying bottles and the like, said carton comprising a handle portion with opposed pairs of end-wall panels and opposed side-wall panels foldably joined thereto.

Carton for Cups, Wilbur G. Anderson, Jr. (to American Box Board Co., Grand Rapids, a corporation of Michigan). U.S. 2,919,844, Jan. 5. A blank for a carton for packaging a plurality of smaller containers, said blank being rectangular and having a top panel, a back panel, a bottom panel, a front panel, a front flap, a rack panel and a sealing flap.

Method and Apparatus for Closing or Sealing Containers of Paper, Paperboard or the Like Carton-Forming Material, Hans Zerlin (to Jagenberg-Werke AG, Düsseldorf, Germany). U.S. 2,920,432, Jan. 12. A mechanism for closing containers made of paper or the like carton-forming material where the upper portion of the container wall portions, folded flatly and overlapping once, is bent at an angle and the portion so bent has clamping pressure applied at a right angle to the longitudinal axis of the container.

Apparatus for Sterilizing Products in Sealed Containers, Lawrence E. Knap (to Food Machinery & Chemical Corp., San José, Calif., a corporation of Delaware). U.S. 2,920,552, Jan. 12. In apparatus for processing material sealed in individual containers, a housing constituting a pressure retort and a container-carrying rotor mounted for rotation about a horizontal axis.

Carton Construction, Edward B. Garman (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,920,757, Jan. 12. A combined shipping container and display receptacle comprising a chamber having a bottom and upstanding side and end walls.

Twisting Closure, Allen Bradford Foye (to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut). U.S. 2,920,778, Jan. 12. A unitary closure for a container having a substantially circular mouth and means cooperating with said closure for tightening said closure on the container.

Carton Dividers, Otto Butters (to Hunt Foods, Inc., Los Angeles, a corporation of Delaware). U.S. 2,920,782, Jan. 12. A carton having a uniform internal depth, a first vertical partition having its bottom edge resting on the inside bottom of said carton and extending upwardly therein.

Closure Cap With Cam and Stop, John R. Emerson (to Fuller & Emerson Mfg. Co., Flint, Mich., a corporation of Michigan). U.S. 2,920,788, Jan. 12. In a cap for a filler tube which has projections near the open end thereof, the combination of a shell which has a top wall and a depending skirt, and inwardly extending locking flanges carried by said skirt and at the lower edges thereof.

Spout for Metallic Container, Alfred Binder (to The Sherwin-Williams Co., Cleveland, a corporation of Ohio). U.S. 2,920,799, Jan. 12. An externally insertable spout for a metallic container having a rimmed circular opening therein, comprising in combination a resiliently deformable plastic nozzle having a tubular body with substantially non-tapering inner walls.

Shipping Container for Fragile, Irregularly Shaped Articles, William E. McWhorter (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,920,808, Jan. 12. An improved receptacle for shipping and displaying a plurality of frangible articles having flared end portions.

Cleat-Reinforced Paperboard Container, Herschel Victor Bray (to Alton Box Board Co., a corporation of Delaware). U.S. 2,920,809, Jan. 12. In a packing case of the character set forth, having a tube of generally rectangular cross section for forming the side walls of the container, the improvement that comprises discrete corner members fitted within the corners of said tube.

Method of Packaging Liquids, Burdet Heinemann (to Producers Creamery Co., Springfield, Mo., a corporation of Missouri). U.S. 2,920,967, Jan. 12. The method of packaging a liquid which comprises placing a flattened, flexible sleeve-like plastic bag which is devoid of air and which has its bottom end completely closed and only part of its upper end open.

Frozen-Food Package, Robert M. Grandy (to Alberti Seafoods Co.). U.S. 2,920,968, Jan. 12. A frozen-seafood package comprising a generally rigid outer container having therein at least two package strip layers.

Carton-Forming Machine, Harland R. Hedlund and Keith E. Burnham (to Waldorf Paper Products Co., Ramsey County, Minn., a corporation of Minnesota). U.S. 2,921,507, Jan. 19. A cartonforming apparatus for use in forming a carton having corner locks, the corner locks extending into horizontal slots in certain of the walls.

Tape-Dispensing Package, Fred A. Ryder (to Chicago Carton Co., Chicago, a corporation of Delaware). U.S. 2,921,674, Jan. 19. A tape-dispensing carton comprising a generally rectangular sleeve open at its outer ends.

Yarn Package, Lucien W. Carignan (to Superflow Machinery Corp., a corporation of Rhode Island). U.S. 2,921,676,



Polyethylene-coated acetate film for skin packaging has increased toughness...cuts costs

The economical skin packaging of larger, heavier items is now possible through the development of a new thermoforming film made by coating acetate film with polyethylene. This combination material is tough, as well as transparent. It produces packages with superior strength and excellent shelf life. It solves the problem of safe packaging for hardware, tools, machine parts, and other items of complex shape.

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Polyethylene-coated acetate film eliminates the need for perforated or treated board. Bonding is improved. The superior thermoforming characteristics of this film combination result in excellent drawdowns around the item without webbing or tenting. Deep draws are possible, thus increasing the variety of products that can be packaged.

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Polyethylene-coated acetate is not a Celanese product. It is produced by a number of converters, and available from them. For names of converters in your area write: Celanese Plastics Company, a Division of Celanese Corporation of America, Dept. 108D, 744Broad St., Newark 2, N. J. Celanese®

Canadian Affiliate: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver, Export Sales: Ameel Co., Inc., and Pan Ameel Co., Inc., 180 Madison Ave., N.Y. 16, N.Y.

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Jan. 19. In combination, a yarn package comprising a skein of yarn, a flexible bag constructed of a transparent, synthetic thermoplastic snugly housing said skein, said bag being heat sealed at its opposite extremities to provide a complete, dust-free enclosure.

Carton-Loading and Unloading Device, Elmer J. Gross (to O & S Products, Inc., Chicago, a corporation of Illinois). U.S. 2,921,702, Jan. 19. A device for manually alternating the raising and lowering of a vertically shiftable carton bottom for positioning at selective levels within the carton to permit placement or removal of successive layers of articles adjacent the open top of the carton.

Combination Bottle Cap and Dispenser, Noah H. Sloan, Chicago. U.S. 2, 921,707, Jan. 19. A fluid-dispensing cap for use on a bottle, comprising a cupshaped body for covering the bottle opening and there providing a fluid-tight seal and adapted to be removed from the bottle and filled with a measure of fluid from the bottle.

Sealing Closure for Bottles and Other Containers, Clyde A. Tolson, Washington, D.C. U.S. 2,921,709, Jan. 19. A resealable closure for a container of the type having an annular bead surrounding the container opening, comprising a cap body having a complete substantially cylindrical wall closed at one end.

Dispensing Closure, Ralph H. Whitney (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2, 921,724, Jan. 19. In combination, a receptacle having a mouth, a dispensing shaker-type closure for said mouth formed in its entirety of polyethylene, said closure being a flat perforate disk.

Closed Envelope Package Openable for Inspection of Contents, Lloyd I. Volckening, John R. O'Meara and Frank J. Lefebvre (to Ivers-Lee Co., Newark, N.J., a corporation of Delaware). U.S. 2,921,731, Jan. 19. An envelope package comprising first and second rectangular layers of flexible sheet material of different lengths, each having one end marginal portion coincident with and secured to one end marginal portion of the other layer and each of its longitudinal marginal portions heat sealed.

Method and Apparatus for De-Aerating Bags During Filling, Lester M. Jones, Daly City, and Frank Raymond Linda, Mill Valley, Calif. U.S. 2,922,443, Jan. 26. The method of filling and de-aerating a container which is being filled by material that is accompanied by extraneous air, which method comprises first introducing said material and withdrawing air by suction from the container simultaneously, then discontinuing the suction prior to the time that the filling of the container is completed, and then completing the filling of the container.

Pocket-Fill Can-Filling Machine, Everett S. Minard (to Chemetron Corp., a corporation of Delaware). U.S. 2, 922,444, Jan. 26. In combination for obtaining the flow into containers of a fluent material, a reservoir for holding the fluent material, compartment means



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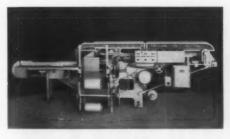


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Patents [Continued]

associated with the reservoir for receiving fluent material from the reservoir.

Device for Removing Improperly Filled Containers From a Filling Line, Charles W. Osmond and Paul R. Fechheimer (to The Karl Kiefer Machine Co., Cincinnati, a corporation of Ohio). U.S. 2,922,445, Jan. 26. In a device for selectively removing containers from a conveyor, a rotatable turret and a plurality of axially extensible arms radially disposed on said turret.

Carton, John F. Currivan (to Carton Associates, Inc., Louisville, Ky., a corporation of Delaware). U.S. 2,922,561, Jan. 26. In a sleeve carton adapted to contain two rows of cans or like containers, one wall panel of said carton being formed by the overlapped end portions of the carton blank.

Polygonal-Carton Construction, Ernest C. Pellaton (to Fibreboard Paper Products Corp., San Francisco, a corporation of Delaware). U.S. 2,922,562, Jan. 26. A blank of foldable material from which a leakproof carton of hexagonal cross section may be erected without requiring insertion of a tool or the like into said carton for positioning bottom structure thereof during such erection.

Snug-Fitting Container Closure, Elmer T. Aldington (to American Can Co., New York, a corporation of New Jersey). U.S. 2,922,563, Jan. 26. A flexible closure for a container having a bead around the mouth thereof, said closure comprising a diaphragm, a skirt around and depending from said diaphragm.

Top-Opening Paperboard Container, Wayne J. Roderick and Oscar J. Huffman, Jr. (to Alton Box Board Co., a corporation of Delaware). U.S. 2,922,565, Jan. 26. A container of the character set forth, comprising an outer body portion having front, back and end walls, an inner body portion having front and end walls which project at least in part above front and end walls.

Package for Tobacco or the Like, Charles B. Harker (to Bartelt Engineering Co., Rockford, Ill., a corporation of Illinois). U.S. 2,922,568, Jan. 26. The combination of a bag formed of flexible heat-sealable material comprising two opposed side panels, one projecting a short distance beyond the end of the other to form a flap, and heat seals joining said panels along side margins to form side seams.

Method of Filling Powdered or Granular Materials Into Containers, Paul C. Aust (to Food Machinery & Chemical Corp., San José, Calif., a corporation of Delaware). U.S. 2,922,611, Jan. 26. The method of increasing the density of packing of a powdered material in a shipping container which comprises fluidizing the powdered material in a shipping-container feeder by flowing a gaseous fluid upwardly therethrough.

Infusion Bag, James P. Whelan (to Pneumatic Scale Corp., Quincy, Mass., a corporation of Massachusetts). U.S. 2,922,717, Jan. 26. An infusion bag comprising an elongated tube of porous sheet material folded upon itself, providing two compartments hingedly connected at the fold and having mouth portions in spaced relation.



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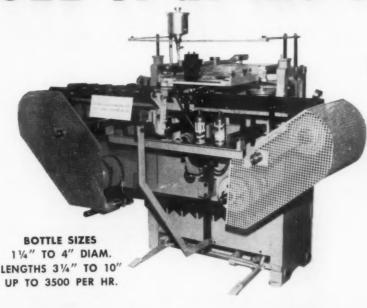
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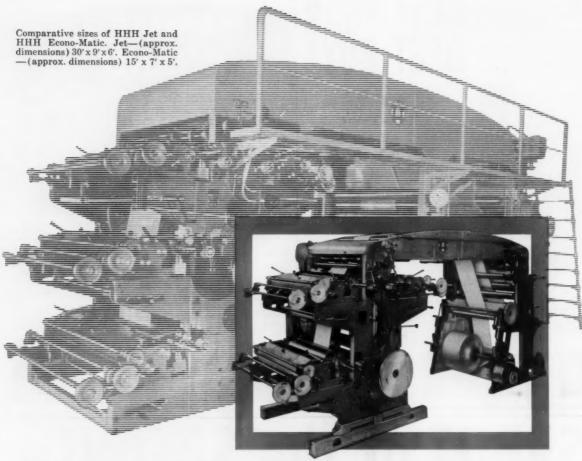
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COTTON CORRUGATED CUSHION-ING. Brochure contains 2-page illustrated folder and samples of cotton-corrugated protection for fine polished surfaces in packing and shipping. Specifications. Chippewa Paper Products Co., Inc. (D-050)

INDUSTRIAL MELTING TANKS. 8-page catalog describes various types, sizes of melting and dipping tanks for waxes, rust preventive oils, etc. Also electrically heated tanks for heating, melting, dipping of plastic strip coating in plastics packaging industry. Aeroll Prods. Co., Inc. (D-051)

ALUMINUM FOIL CARTON BOARD. 12-page booklet describes properties, design, provides how-to-do-it information on printing of aluminum foil carton board in the packaging industry. Anaconda Aluminum Co. (D-052)

PACKAGING TEAR STRIPPER. 2-page data sheet describes features of machine designed for tear strip application to bags, wrapping, and packaging. Charles Bock Machine Corp. (D-053)

CIRCUIT CONTROLLING PRE-SET COUNTERS AND MARKING EQUIP-MENT. 8-page catalog describes counting devices, equipment for unit or multiple counting. Application is to packaging machinery, box making machinery, marking, etc., in the packaging field. Counter & Control Corp. (D-054)

PLASTIC TUBE FILLERS AND SEAL-ERS. 8-page brochure describes machinery and equipment designed for multiple filling and sealing of plastic tubes and polyethylene bags, application of labels for the packaging field. Carbert

VOLUMETRIC SMALL-FILL EQUIP-MENT. 8-page illustrated catalog describes equipment designed for filling, closing and crimping, for the pharmaceutical, chemical, cosmetic, paint, plastics and food industries. Arthur Colton Co., Div. of Snyder Corp. (D-056)

PACKAGING CLOSURES. 46-page fllustrated catalog describes function, designs, types of styles of closures for assorted packaging containers. Ball Brothers Co. (D-057)

TEXTILE FIBRE LABELING. 16-page illustrated booklet discusses features, advantages, economies of tag and labeling technique. Dennison Mfg. Co. (D-058)

BAG SEALING MACHINE. 4 pages of illustrated data sheets describe machine designed to seal bags at 1% second cycle, up to 40 per minute. Adaptable to manual or automatic operation. Errich International Corporation. (D-059)

SHIPPING CASE INTEGER. 4-page folder describes machinery to handle complete casing operation. Strips a knocked-down case from a stack of flat cartons, sets it up, presents it to a packer. When packed, glues and seals it. Specifications. Emhart Mfg. Co. (D-060)

CARTON FEED AND PACKING EQUIPMENT. 20-page illustrated folder describes various machinery designed to collect, feed and load and seal shipping cartons. Handles packages and containers of assorted shapes and sizes. R. A. Jones & Co., Inc. (D-061)

BAKING INDUSTRY PACKAGING EQUIPMENT. 8-page illustrated folder describes features of machinery designed to collect and bundle baked products for shipping in heavy kraft or corrugated papers. Hayssen Mfg. Co. (D-062)

FLUFF TESTING EQUIPMENT. 3-page brochure describes machinery designed for testing and measuring fluff accumulation resulting from pressure in the printing and packaging of such things as paper, blankets. Testing Machines, Inc. (D-063)

TAPE CLOSURES WITH ADHESIVE APPLICATORS. 4-page illustrated folder describes machine designed for use on both bag-making plants and in users' bag filling operations. United Shoe Machinery Corp. (D-064)

PRESSURE-SENSITIVE TAPES, CE-MENT. 16-page illustrated brochure describes features and applications of pressure-sensitive and self-adherent tapes, high temperature cements. Connecticut Hard Rubber Co. (D-065) LABEL PRINTER AND DIE CUTTER. 4-page illustrated catalog sheets describe machine designed to print and die cut pressure-sensitive labels, from 1 unit to 110 labels per minute. Also pressure-sensitive labels. W. H. Brady Co. (D-066)

GUMMED-TAPE PRINTING, SEAL-ING MACHINES. 12-page illustrated folder describes machines designed for printing, measuring, cutting and sealing of gummed tapes. Specifications. Better Packages, Inc. (D-067)

RE-USABLE SHIPPING CONTAINERS.
2-page data sheets describe containers designed for re-use in air transport for shipment of such things as delicate instruments and equipment subject to repair and re-calibration. Specifications, data. William Bal Corp. (D-068)

FLEXOGRAPHIC PRINTING PRESS.
4-page folder describes features of rollto-roll machinery designed for flexographic, multi color printing of all types
of packaging materials. Specifications,
data. Heinrich Equipment Corp. (D-009)

KING SIZE DISPOSABLE AEROSOLS. Illustrated bulletin gives detailed information on line of large size cylindrical aerosol rated for 240 psi service presures and with capacities ranging from 40 to 132 cubic inches. Tube Manifold Corp. (D-070)

JUNIOR SIZE, POLYETHYLENE BAG MACHINE. 2-page data sheet describes small machine designed for making polyethylene bags and side seal pouches in small quantity runs. Handles plain or printed, flat or gussetted tubing. Poly-Ette Div., Conapac Corp. (D-071)

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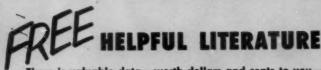
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CREATIVE PACKAGING AND MANU-FACTURING. 4-page illustrated brochure describes services of creative design manufacturer of folding boxes, box wraps, wrapping papers and labels. Special features. The House of Harley, Inc. (D-072)

SELF-SERVICE MEAT WRAP FOR FREEZER STORAGE. 8-page folder describes features of transparent, flexible packaging film designed as wrap for fresh red meat for bloom retention and freezer storage. Goodyear Packaging Films Dept., Goodyear Tire & Rubber Co. (D-073)

3 COLOR FLATBED PRINTING MACHINES. 10-page illustrated brochure describes features of line of flatbed-printing machines designed to handle multicolor printing process in one single operation. Specifications. International Eastern Co. (D-074)

PRINTING, COATING, SLITTING MACHINE EQUIPMENT. 6-page illustrated brochure describes equipment and accessories. Cylinder wrap for worn printing cylinders. Coating machine for applying paraffin, silicate, etc. Guide delivery transport for alitters. H. & W. Machinery Corp. (D-075)

CODING, DATING, PRICING, IM-PRINTING MACHINERY. 8-page brochure describes machines that imprint on cartons, packages, boxes, cans, bags, wrappers, and/or on the unwrapped product itself. Industrial Marking Equipment Co., Inc. (D-076)

CARTON STITCHER. 8-page illustrated brochure describes features and applications of wire stitching machines for stapling corrugated and fibre shipping cartons. Specifications. Ideal Stitcher Co.

PACKAGE TESTING EQUIPMENT. 30page illustrated catalog describes line of vibration, incline-impact, compression and drop testers. Specifications, prices. Gaynes Engineering Co. (D-078)

AIR-OPERATED STAMPING PRESS.
1-page data sheet describes features, operation of bench press for hot stamping on paper, fibre, soft and hard plastics, and other materials. Size, 15" wide x 19" deep x 36" high. Specifications. Peerless Roll Leaf Co., Inc. (D-079)

SLITTING-REWINDING MACHINERY.
4-page folder describes multi-purpose
slitter-rewinder designed to control varying characteristics of several types of
plastic film, off-caliper papers, laminated
papers, foil, other sensitive materials.
Cameron Machine Co. (D-090)

FLEXOGRAPHIC PRESSES, BAG MA-CHINES. 8-page illustrated brochure describes line of 2-, 3-, 4-color flexographic printing presses. Also high speed bag machine and a rewinder and slitter. Specifications and data. Manhasset Machine Co., Inc. (D-081)

CONVEYING EQUIPMENT AND MA-CHINERY. 22-page illustrated catalog describes such items as gravity and power roller conveyors, inclined belt conveyors, drive units, etc. Specifications and data. Standard Conveyor Co. (D-082)

SHEET PLASTIC FORMING MA-CHINES. 8-page illustrated folder describes line of equipment designed for shaving plastic from rolls and sheets, performs folding, creasing, beading, drawing, and forming operations. Specifications and data. Taber Instrument Corp. (D-083) HEAVY-DUTY FILAMENT TAPES.
4-page folder describes applications of heavy-duty packaging and materials handling adhesive tape, for reinforcing, bundling, pelletizing and unitizing. Specifications and data. Minnesota Mining & Mfg. Co. (D-084)

CALKING CARTON SEALING PROC-ESS. 4-page illustrated folder describes a machine designed to seal carton and flaps in one integrated operation by calking method, handling up to 300 cartons per minute. Packaging Corp. of America. (D-085)

UNWINDING EQUIPMENT. 12-page illustrated brochure describes line of various types of unwinders and equipment for use with such things as slitters and winders, coaters, printing presses, laminators, wazers. Specifications. John Dusenbery Co., Inc. (D-086)

BOX COVERINGS. Booklet contains samples of grey box coverings, specifications and prices. Matthias Paper Corp. (D-087)

INDUSTRIAL ADHESIVES. 8-page illustrated folder describes properties and applications of industrial adhesive coating suitable for various packaging applications. Specifications and data. Finishes Div., Interchemical Corp. (D-088)

PLASTIC JEWELRY PACKAGES. 6-page illustrated brochure describes features of line of plastic jewelry packages. Design, function, and lining applications. Braun-Crystal Mfg. Co. (D-080)

MECHANIZED BAG DUMPER. 4-page brochure describes machine designed to open multi-wall bags of any free flowing product, discharge contents into hopper, disposing of empty bag. Capacity up to 20 bags a minute. Wiretyer Corp. (D-090)

AUTOMATIC MOLD WIPER. 4-page folder describes features of wiper that strips molds of ejected molded parts, sprues and runners in synchronization with machine cycle—and is adaptable to all injection molding machines. Bermer Tool & Die, Inc. (D-091)

WEB PROCESSES, DRYING, EXTRU-SION. 6-page illustrated folder contains tables, diagram, describes laboratory facilities available for experimental and pilot plant studies on new materials, processing methods and equipment. Waldron-Hartig Div., Midland-Ross Corp. (D-092)

HEAVY DUTY INDUSTRIAL BAG. 5-page folder describes features, application of heavy duty bag designed for industrial packaging. Specifications. Chippewa Plastics, Inc. (D-093)

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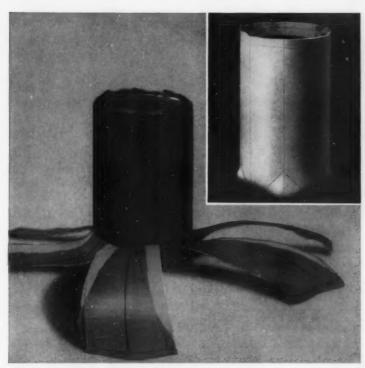
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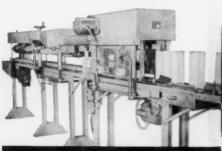
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Polypropylene lab tests

Extensive testing is reported under way at a packaging laboratory in Marcus Hook, Pa., to determine new



AviSun's polypropylene film is tested as an overwrap for candy boxes on Package Machinery Co.'s Model FA-2 overwrapping machine.

applications and new techniques for AviSun Corp.'s new Olefane polypropylene film.

Function of the laboratory, which will provide a constant flow of packaging information, is divided into two areas, according to Ralph M. Winters, who is supervising test operations for AviSun. First is machineability testing of the film, with special emphasis on feeding and folding. The consistency of good packaging is another important test function being undertaken.

The laboratory contains several packaging machines, including overwrappers, thermoforming machines and bag makers. A humidity cabinet operates from 20 to 95% humidity and from zero to 150 deg. F. In addition, extensive tumble, drop, abrasion, low-temperature and shelf-life testing is being carried out. Illustrated is a Package Machinery Co. Model FA-2 overwrapping machine testing the polypropylene film as an overwrap for candy boxes to determine heat-seal range and feeding and folding characteristics. Films range from 3/4 to 11/2 mils thick. One important factor said to be revealed by the testing is that Olefane can be easily heat sealed through various dusts and oils.

Polypropylene packages are compared with packages wrapped in competitive films and customer packages are wrapped in the laboratory. Many sample packages are made up on request. Technical questions pertaining to the new polypropylene will be answered by lab personnel. •

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Juster Board



Carton produced by Southern California Carton Company, Inc.

Max Factor, a byword in cosmeties, chose LusterBoard, a buy-word in packaging, to take its Creme Puff Compact to market. One look tells you why. The distinctive look-at-me beauty of LusterBoard glorifies a product, makes it stand out, sells it stronger and faster. Here are a few of LusterBoard's advantages that can go to work for your product:

- Smooth folding, superb embossing effects
- ☆ Fast ink setting
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Samples, demonstration pieces, and technical information are available from:

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Printing Papers

warren's Juster Board

packages as well as small ... the "Oliver"

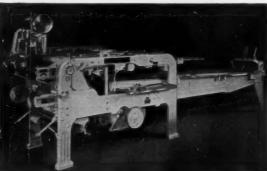


wraps and labels them all to sell and to save!

Do you overwrap large cartons like these? Or small cakes with cardboard supports? The "Oliver" wraps and labels them all. They sell. You save hours daily! It heat-seals packages in modern wrapping materials for utmost protection. The one-man "Oliver" is efficient on short and long runs. It has many operational features. Note these few: A photo electric cell registers printed wrappers accurately. At the flick of a finger you switch from endfold to underfold. Adjust wrapper cutoff length while machine is running. Change rolls of smart heat-seal labels (printed by "Oliver") in a jiffy. The cardboard folder and feeder has mechanical or vacuum feed. There's an automatic transfer for automation lines. Choose from 8 models that can handle up to 50 packages

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Reprints of articles, features and news items that appear in Modern Packaging are often surprisingly inexpensive when ordered in quantity. Many companies make it a practice to have stories which have a bearing on their business reprinted for distribution to their personnel, customers, prospects, stockholders or to other interested groups.

Whenever you see editorial matter of this type in Modern Packaging magazine or the Modern Packaging Encyclopedia Issue which you can use in reprint form, in quantities of 200 copies or more, write and quotations will be furnished promptly.

INDUSTRIAL MAGAZINE SERVICE

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EPF and Interpack

New food laws in several countries and their effect on food packaging will be highlighted in the program of the European Packaging Federation's Fourth International Packaging Congress at Dusseldorf, West Germany, April 21-25. The Congress is concurrent with Interpack 1960 the International Packaging Exhibition—in the same city April 20-27.

Among speakers on other subjects at EPF's Congress will be Lloyd Stouffer, editor of Modern Packaging, who will discuss new packaging developments in the United States, and Charles A. Southwick, Jr., technical editor of the magazine, who will report on progress in the polyolefins. Pierre J. Louis, director of the French Packaging Institute, will talk on the sales appeal of a consumer package.

Interpack's more than 370 exhibitors will include at least 25% from outside Germany. Among American companies will be Derby Sealers, Minnesota Mining & Mfg., Union Carbide International Co., Bradley-Sun Div. of American Can, Seaquist Mfg. and Modern Packaging. Total exhibit area and number of displays are expected to double that of the first Interpack in 1958.

Textile labeling

Effective March 3, all fibre products must now bear either a label, a stamp or a tag stating:

 The fibres therein, in order of predominance by weight, shown by generic names.

The percentage of each fibre present by weight, except those less than 5%.

3. The name or symbol of the product manufacturer.

4. If imported, the name of the country where processed or made.

These data are required under provisions of the new Textile Fibers Products Identification Act, signed by the President in September, 1958. Although fibre-content identification is not required on goods manufactured or shipped before the effective date, suppliers have for some months attached the new labels to meet retailer demands, to demonstrate that they were offering fresh merchandise and to reduce re-labeling of merchandise coming into stock.

Users are saying...

"There's just nothing metal like a \(\text{tube} \) tube"

• COMPACT

No space is ever wasted by a metal tube; it folds right up to fit the product skin-tight. Users appreciate fold-up tubes that tuck into small space—in an attache case, or even a purse.

. SPILL-PROOF

A tube's positive closure insures against leakage under the bouncing, jouncing, and changing conditions of travel.

• INDESTRUCTIBLE

No matter how you beat up a tube, it still functions as intended. Drop it, throw it, step on it, it's still a tube and acts like one.

OPERATES EASILY

Almost anyone can exert the gentle squeeze that makes a tube work—even children, and hands crippled by arthritis. You don't have to put your foot on a tube to operate it.

• FEEDS ACCURATELY

A tube is an easily-controlled dispenser. It doesn't spurt or squirt; just emerges smoothly and calmly.

OFFERS WIDER SIZE SELECTION

Little tubes are fine for travel, guest, office, or little people. Families come in different sizes, too, and so do uses for many kinds of fluid products. Tubes take care of every capacity need—inexpensively.

RETAILERS like the space economy of tube-packaged products, and the ease with which they stack.

PRODUCT MANUFACTURERS like Wheeling Stamping as their dependable source for tubes. Wheeling specializes in service. Use tubes for your product, and call on Wheeling when you do.



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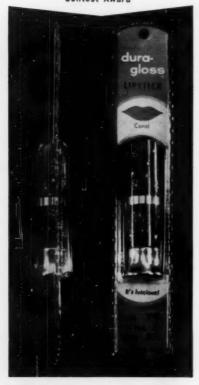
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WINS BEST PACKAGE OF 1959

In Variety Store Merchandiser

Contest Award



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Dock Street & Martin Place, Port Chester, N. Y.
Custom-designed, mass preduced packages, package
compenents, sampling devices, etc. in clear, opaque
and calored plastics.

NCA meeting opens metal-can sesquicentennial

The 53rd annual convention of the National Canners Assn. in Bal Harbour, Fla., opened a year-long observance of 1960 as the 150th anniversary of the discovery of the canning process and the patent for the first metal container. Some 6,000 canner personnel attended.

The four-day convention was opened with a welcoming address by outgoing NCA president, Norman Sorensen. Mr. Sorensen expressed the theme of the meeting with the statement that the canning industry can take pride in its self-imposed standards of product quality and quality control. Said he, "The private industry of canning is more concerned with the health, welfare and safety of the consumer than any Government agency could be. Industry's incentives are enlightened self interest-a stronger motive than mere compliance with Government edict and one which is less susceptible to violation."

Speaker at the opening general session was Roger M. Blough, board chairman of United States Steel. Taking as his topic "Aftermath in Steel," Mr. Blough discussed the potential effects of the steel-strike settlement on the competitive position of tinplate with other materials

used in the manufacture of cans, particularly aluminum.

Another highlight of the convention was a discussion of the association's food-additives program. Dr. Ira I. Somers, director of NCA's Research Laboratories, outlined the program and pointed out that while the laboratories are not set up to test toxic possibilities of additives, they will assist members in locating sources of information on previous usage or testing of additives.

The now-famous "cranberry incident" of 1959 was reflected in a talk by Dr. C. H. Mahoney, director of NCA's Raw Products Research Bureau. Dr. Mahoney outlined NCA policy on grower use of pesticide chemicals and reported that his bureau will keep members informed of developments in the use and regulation of pesticides, herbicides, nematocides and regulators.

Milan D. Smith of the Smith Canning & Freezing Co., Pendleton, Ore., was elected 1960 president of National Canners Assn. John C. Hemingway of H. C. Hemingway & Co., Clyde, N.Y., was elected to the post of vice president. Carlos Campbell was continued in office as executive secretary-treasurer and 23 new directors were elected.

Adjustable tape sealer for shippers

[Continued from page 91]

case, the other starts further machine action. The elevator in this section travels over its full range on every cycle, returning to an upper limit after each case adjustment. Subsequent elevators only change from one case setting to the next to save adjustment time and speed machine action.

2. In the second section of the case sealer, where the main carton flaps are closed, another elevator is started by the second electric switch. It rises or drops, depending on its previous position, until another electric switch, mounted on an extended arm, contacts an arm-mounted finger on the first elevator and thus stops the mechanism in perfect height alignment. The second elevator contains folding belts that close the main case flaps.

3. An elevator in the third or sealing section of the machine is consecutively activated and is also posi-

tioned by an electric switch-and-arm device. This elevator contains tape dispensing, wetting and cut-off mechanisms that are activated as the case enters the section. Corresponding tape-feed mechanisms are located under the machine to seal the bottom of the case. The tape strips are rolled tight by top and bottom compression rollers and affixed to the sides of the case by cam-mounted rollers (for the trailing edge) and piston-mounted rollers (for the leading edge).

Special anti-jam devices prevent changes in adjustment while a case is passing through the various stages. As a case moves through the final section, it trips a switch that releases the first section of the machine for adjustment to the next case. After the case has left the final section, it trips still another switch that releases the final section for readjustment.

FAST

Face-to-face or face-to-back, Epolene C HEAT-SEALS permits faster sealing cycles at lower temperatures than can be achieved with other polyethylene resins. Dwell times of less than 1/4 second are obtainable. You can heat-seal to polyethylene flexible packaging without melting the film.

Epolene C

Eastman low-molecular-weight polyethylene resin

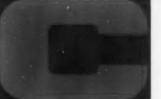
> Examine this coated sheet for gloss

LEAVES NO UNCOATED AREA

With Epolene C, you can coat right up to the edge of the stock as no gripper is involved, unlike polyethylene coatings applied by the extrusion-laminating process. No trimming is necessary to obtain a bleed coating.

Epolene C

Eastman low-molecular-weight polyethylene resin



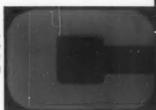
WIDE CHOICE OF STOCK

With Epolene C, it is possible to coat vir tually any web-fed stock from a hot melt including paper, paper board, foil, clot! and cellophane.

Test this sheet for moisture-vapor transmission

EXCELLENT ADHESION

Properly modified, Epolene C coatings exhibit excellent adhesion to a wide variety of materials. Try pulling this coating off with cellophane tape and you will find the paper, not the coating, fails.



Epolene C

Eastman low-molecular-weight polyethylene resin

COMPATIBLE WITH OTHER RESINS

Epolene C can be modified with a variety of resins to reduce costs, increase adhe sion, increase moisture vapor transmission resistance, and improve heat-sealability.



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Try this shout

Tost this

MAKES CUSTOM-COATING PRACTICAL

Custom runs of Epolene C coated pape can be delivered economically ... and or short notice, too. Applied direct from a hot-melt to one or both surfaces, coatings of Epolene C can be tailored to the re quirements of a specific end use by mod ification with other resins.

FAST

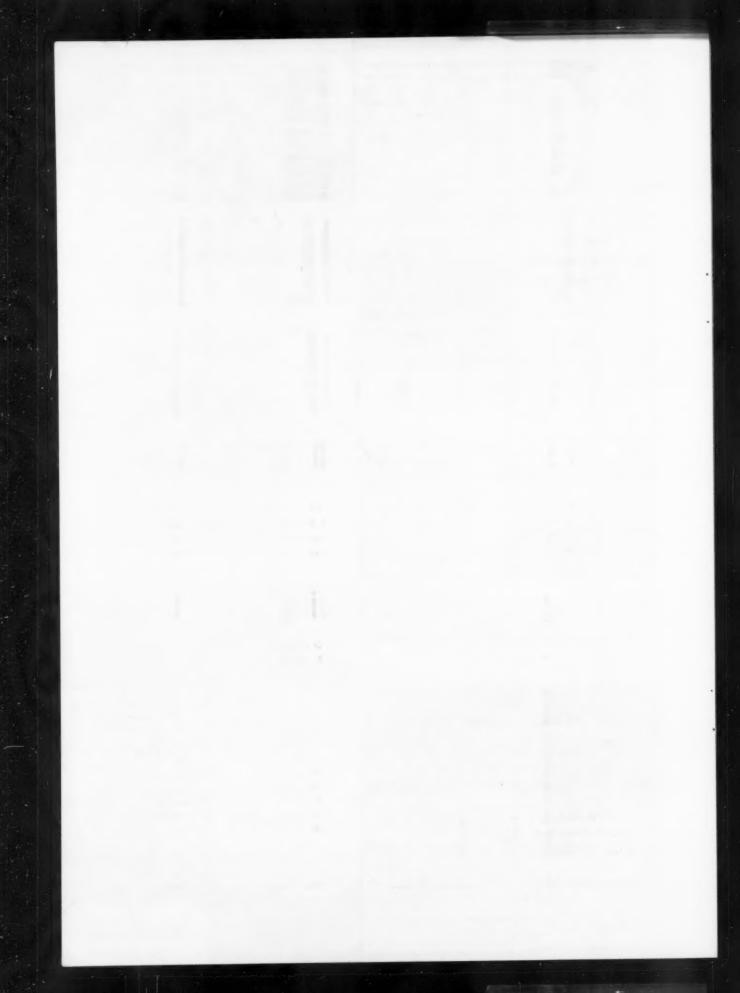
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LEAVES NO UNCOATED AREA With Epolene C, you can coat right up to the edge of the stock as no gripper is involved, unlike polyethylene coatings applied by the extrusion-laminating process.

Examine this coated sheet for



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- with additional circulation of the special section to boost total Western distribution to the 6,000 mark for blanket coverage of the market
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GCMI packaging lab

The Glass Container Mfrs. Institute's Packaging Research Laboratory recently moved to enlarged



Dr. John G. Turk (left), director of the GCMI Packaging Research Lab, and Dr. A. J. Panshin (right), in charge of packaging at MSU, inspect equipment in new laboratory.

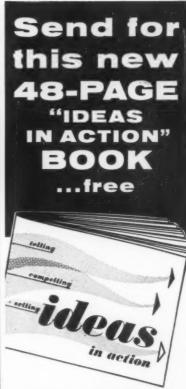
quarters on the campus of Michigan State University at East Lansing, Mich. For the past three years, the laboratory has occupied temporary quarters in Lansing, Affiliation of GCMI and MSU during that period has resulted in a close and mutually productive working relationship, said Victor L. Hall, general manager of GCMI, and the move to the campus should serve to strengthen and increase the exchange of packaging ideas and information.

The 3,500 sq. ft. laboratory is primarily concerned with research and development work on fibreboard boxes and packaging for the glasscontainer industry. Dr. John G. Turk continues as director of the new facility. Richard N. Maxson, chief physicist, and Robert M. Sweitzer. packaging engineer, continue in their respective posts. Several students from the University's Packaging School are employed by the laboratory on a part-time basis.

Military-industry meet

Impending changes in military packaging-sparked by the current emphasis on mobility, missiles and massive retaliation-drew more than 1,000 packagers, suppliers and military-packaging experts to Washington, D.C., for the recent fifth Joint Military-Industry Packaging Symposium, sponsored this year by the Air Force.

Those in attendance received a surprise bonus in the form of a fullscale exposition devoted exclusively to military packaging. Sponsored by the National Security Industrial



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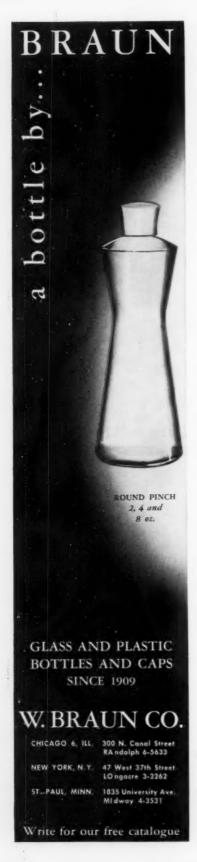
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Assn., this 60-booth show pointed up a marked trend toward the use of plastics in the packaging of military supplies.

After opening speeches by key Government, military and industry leaders, the technical experts took over and hammered on the need for lighter, yet more shock-resistant and weatherproof packages to suit fast air transportation and aerial dropdelivery techniques. Both civilian and military men detailed present ground-handling systems for air cargo and reviewed the progress of the Air Force's packaging program, emphasizing development of specifications and package testing techniques. Naval personnel discussed packaging advances in under-way replenishment of the fleet and delivery of beached supplies. Special points were made by several of the speakers:

Military specifications are rapidly moving toward performance-type requirements, according to Capt. P. L. Peoples of the Air Force, with the Armed Services specifying only how the package will be used, leaving fabrication techniques and choice of materials to the supplier.

Wooden crates for bulky aircraft parts may soon give way to more efficient and economical corrugated structures utilizing reinforced plastic tapes in suspension constructions, E. L. Rzepecki of Minnesota Mining & Mfg. Co. predicted.

Despite current efforts to minia-

turize electronic equipment, many electrical systems are still bulky and require special packaging techniques to withstand the shocks encountered in military shipment, declared T. C. Combs of Zero Mfg. Co. This company's solution is modular package constructions of aluminum, bonded with structural adhesives and containing specialized protective inset panels.

For a fresh viewpoint on how other countries handle military packaging, the Air Force flew a group of European packaging experts to the meeting for a discussion of developments in the NATO countries. Moderated by Pierre Louis of the European Packaging Federation, a panel of four speakers described achievements in plastic and foil laminations now being adopted in several foreign countries to pouch package military rations.

Most striking fact to be drawn from the concurrent exhibit by domestic packaging suppliers is the rapid increase in foamed plastics for cushioning. Ultra-light pads of foamed polyethylene, urethane and polystyrene were shown in many ingenious structures for delicate military items. And several examples of older-style cushioning materials in combination with plastics were displayed in cost-saving and efficient packaging constructions. A new honeycomb shock absorber for packaging use, made from aluminum foil, drew wide attention. .

Containerization—for land, sea and air carriers

[Continued from page 128]

in standardization. Thus, a recent marine-transportation development—a completely functional cargo ship designed by Capt. V. C. Farrell—presents a new concept in the arrangement of cargo holds and handling equipment (11). It has attracted wide interest since, for one reason, the design lends itself admirably to containerization requirements. The ship has been described as "all hatches," a fact of great importance in the efficient discharge of goods into cargo holds.

Many new developments in line with the dream of all manufacturers—namely, to ship their products "from point of origin to point of delivery without manhandling"—are probably in the offing. A conveyor belt, for example, has been sug-

gested as standard equipment for port terminals (4) for use in loading ships. The conveyor belt would be so designed that it could be readily extended from dock to ship. It would be sufficiently powered to take care of containerized or other types of cargo in a continuous, completely mechanized, round-the-clock operation. Such conveyors are now commonly used at airports (Figure 5).

But it is inevitable, in closing, to return to the stubborn problem of "the lowest common denominator" concept of container sizes in relation to the cargo spaces of land, water and air carriers. This is a mathematical problem and it may well be that in its solution an immense load of dimensional data will have to be fed into the calculating

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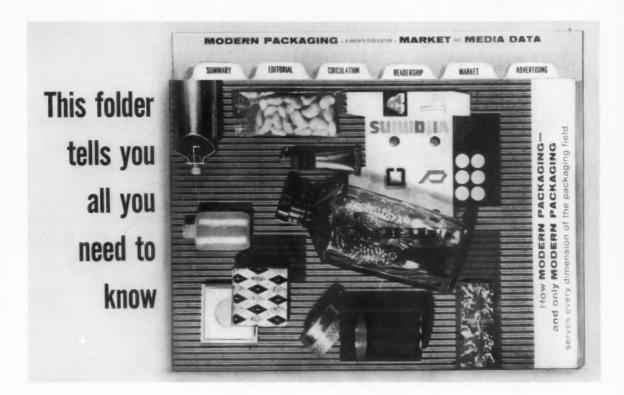
Agents in Principal Cities

machine and then treated by analysis of variance to determine which sets of data are of key importance in arriving at not the lowest, but the best common denominator.

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MSU packaging-school building fund grows



Architect's drawing of proposed new MSU School of Packaging building.

New cash donations have raised to more than \$112,000 the total amount donated by various industrial organizations toward a \$2,000,000 building fund for Michigan State University's School of Packaging at East Lansing, Mich.

Latest donors are United States Steel Corp. (\$12,500), W. R. Grace & Co.'s Cryovac Div. (\$10,000), Continental Can Co. (\$5,000) and Bennett Industries, Inc. (\$100). In addition, the American Box Board Foundation has now increased the

total amount of its contribution to \$15,000.

The proposed packaging-school building will house expanded research and instructional facilities.

The Packaging Foundation reports that the following have accepted membership on its Board of Trustees: W. Howard Auerswald, president of Tubed Chemicals Corp.; Elliott Balestier, manager of Visking Corp.'s Division of Special Services, and Lyman J. McWain, president of Lily Cups Overseas, Ltd. ●

The role of the research laboratory

[Continued from page 82]

Most revealing data on the laboratory's accomplishments are contained in the Package Research Dept's annual report to management.

During 1959 the department made 19 major cost-saving proposals, ranging from a few thousand dollars (by reduction in board thickness for certain cartons) to hundreds of thousands of dollars (by replacing cartons on Vitalis hair tonic with six-pack wrap-arounds similar to canned-beverage multipacks).

Package Research wrote 127 new descriptive packaging specifications during 1959 and revised 134. It prepared 200 mechanical drawings from a technical standpoint and 89 art drawings. It issued 91 tentative and deal specifications. It prepared 205 reports on laboratory studies of packaging materials to provide a ready reference for all departments concerned, to avoid repetitive activity and to serve as a guide to thinking and package programming.

It pursued 47 completely new package developments, and improved the structural and protective design of 15 of the company's present package constructions.

In previous years, Bristol-Myers' Package Research has been able to create such entirely new concepts as the roll-on dispensing feature for Ban deodorant which not only started a whole new trend in the deodorant field, but also spread to several products in other fields. It developed the inverted squeeze bottle for Ipana Plus toothpaste (winner of the Packaging Institute's 1958 Corporate Award) and, last year, perfected an improved captive cap for use on this package.

The department is continually studying new materials, the lightweighting of glass, new bottle shapes, new dispensing features, improved seals, aerosol valves, carton and counter display constructions to keep Bristol-Myers out front packagingwise in its field. It was through such study that the company was able to upgrade the appearance of the Ban package recently-and to lower its cost-by suggesting a goldsprayed phenolic cap to replace the transparent polystyrene cap and by developing a foil-laminated board for the carton, used at no increase in package cost and even affording savings over previous package cost.

Today, when packages must be engineered, tested and kept up to date as faithfully as the products they contain, the Bristol-Myers accomplishment offers convincing evidence that packaging research is a management concern.

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Aluminum research

A pilot plant for the development of new types of aluminum containers is being built at Bellwood, Va., by Reynolds Metals Co. To be known as the Container Development Plant, the one-story, 20,000-sq.-ft. building will house facilities for carrying out production tests on experimental aluminum cans and semi-rigid aluminum containers.

William G. Reynolds, executive vice president for research, reports that the ultimate aim of the new plant is the development of "more economical designs and manufacturing methods which will put many more consumer products in aluminum packages."

The container development plant will be incorporated into Reynolds' new centralized Packaging Research Division, which was created late last year. Other units of the division (all located in Richmond, are a foil packaging research laboratory, a pilot printing plant and a machinery development section. The division operates under the supervision of A. Irving Totten, general director.

For the first few years of operation, Reynolds' new research facility will be staffed with about 50 employees. Many of them will be transferred from other departments, the company reports.

Films for bread

[Continued from page 99]

The first necessity for successful wrapping with thermoplastics, according to experienced suppliers and bakers, is a machine capable of handling limp, high-static materials and equipped with controllers sensitive enough to hold heat sealers within 2 to 3 deg. F. of the desired sealing temperatures. Heat-sealing surfaces must also be designed or coated to prevent sticking of the films and folding mechanisms must give added slip and guidance to these tricky materials.

While the ultimate mechanism has not yet been created and research is continuing, a number of greatly improved machines and conversion kits are now available and most are performing satisfactorily in commercial operations.

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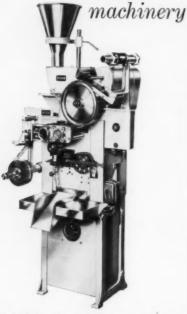
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for a standard (American Machine & Foundry) waxed-paper and cellophane wrapper that attacks the problems with Teflon-coated, preheated folders and a traveling finger assembly that together stabilize the sliced loaf and reduce drag. Bottom seal on the loaf is made with a succession of three devices: (1) a preheating plate that raises temperature of the entire seal area to 100 deg. F., (2) a full-length, sleeved roller that seals at 250 deg. F. and (3) a narrow, 275-to-300-deg.-F. belt that gives extra sealing heat to the center area of the loaf where film and band are interleaved. Coupled with an accurate electronic heat controller and pre-heaters for the end labels, this unit has given satisfactory service at a number of bakeries and Continental Baking adopted the bottom sealing section alone for its own machine conversions.

Another conversion kit (Pollock Paper Co.) now in wide use for both AMF and National (Package Machinery) units is extremely simple and costs about \$1,000. As employed at Freihofer Baking Co., Philadelphia, for example, it consists of heat-resistant plastic "gloves" that are slipped over heated surfaces and are then regularly sprayed with a silicone compound to increase slip. Major part of the cost, however, is for ultra-sensitive controllers that accurately govern sealer temperatures. Other minor parts are a variable-speed control for the web, static eliminators and drag bands. The advantage of this conversion is that switching to other wrapping materials takes only minutes.

In another technique, a label and wrap supplier (Nashua Corp.) makes use of nine rollers in its machine conversion kit to make the bottom seal. Rollers are uniformly heated by radiation from a hot aluminum casting. In the latest model, this unit can be flipped for flat-plate sealing of waxed paper and cellophane. Users include Kroger in Louisville, Ky., and Cushman.

At least two other suppliers (Package Machiney and Kordite) and even some packagers have also made individual conversions.

Conversion kits are relatively inexpensive and save large capital expenditures during testing periods. However, in the long run, most bakers believe that the need is for high-speed machines built to run not only polyethylene, but other thermoplastics, cellophane and waxed paper without change parts or complicated adjustments.

Because, it is said, bakers require flexibility and simplicity in their packaging departments, keen interest has been shown in two new machines that reportedly can handle all present wrapping materials. Both utilize belt-covered heating and refrigeration plates for sealing the ends of the loaves. The main difference is in bottom-seal fabrication.

One machine (Package Machinery) uses a combination of reciprocating-bar and roller sealing techniques. The reciprocating bar tack seals the film as it is cut from the web, thus holding the tight wrap. The rollers that finish the job are built into a reversible holder that doubles as a flat plate sealer for waxed paper. Successful installations include Ward Baking Co., Pittsburgh, Kroger and Anderson.

The other machine (AMF) incorporates a number of flat heat-sealing bars carried in spaced relationship on an endless conveyor that travels along with the loaves. A patent has been applied for on this new method. This unit reportedly operates at up to 75 loaves per minute with thermoplastic films and is in high-speed operation at Van de Camp's, Los Angeles, and General Baking Co. in Philadelphia.

Also of interest is a new English wrapping unit (Clavell, Bate & Nephew) that overcomes the difficulty of sealing irregular and resilient surfaces by using a flexible heat sealer made from a glass-cloth tube filled with a heated liquid medium.

With all of these achievements in machine design, packagers must still overcome deficiencies in the capabilities and training of operators before they can successfully wrap with polyethylene film. Here is a suggested four-point check list:

- 1. Select operators for mechanical aptitude.
- When wrapping machines are delivered or converted, assign an operator to stay with the supplier's installation engineer for training.
- Request the supplier to check up on training and machine operation at a later date to insure continued high performance.
- Conduct formal training sessions for wrapper operators in the fine points of machine adjustments

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The Hinge-Fold illustrated at left produces cartons with a strength, accuracy and uniformity never before achieved. It is the result of a new concept of creasing and folding which eliminates the folding fractures resulting from the abrasion and tearing action of knife-edge scoring wheels which have plagued the corrugated industry for years.

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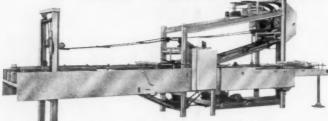


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and handling of thermoplastic films.

Packaging officials at Continental Baking who have studied the personnel problem report that it takes almost six months to train an operator in the intricacies of running polyethylene, but that the effort is repaid in increased performance of the packaging operation. Other experts assert that wage levels must be raised for skilled operators to boost incentive and avoid turnover.

With these significant developments crowding in, overwrapping mechanically in thermoplastics is really just beginning. But improvements are coming so fast that certain of the technical and mechanical details now regarded as acceptable may be outmoded next year.

The basic knowledge and techniques that are currently being developed, however, are sure to remain valid and to improve wrapping with thermoplastic films in many other product areas.

Folding-box winners

[Continued from page 111]

champagne for Gold Seal Vineyards, Inc., box by Container Corp. of America. Kahlua for Sheldon Marks Associates, box by Consolidated Paper Box Co., design consultant, Howard Blonder & Associates.

Sporting Goods and Toys: Model kits for Lindberg Products, Inc., box by United States Printing & Lithograph Div., Diamond National Corp., design by Ray Gaedke. Party decorations for Oak Rubber Co., box by Gardner Div., Diamond National Corp., design by Smith, Scherr & McDermott.

Paper Products: Esquire for Esquire, Inc., box by Old Dominion Box Co. Tissues for for Marcal Paper Mills, Inc., box by Berles Carton Co., Inc. Hankies for Hudson Pulp & Paper Corp., box by Berles Carton Co., Inc Masterfax paper for Ditto, Inc., box by Crowell Carton Div., St. Regis Paper Co., design by Raymond Loewy.

Best Display: Unicaps for Upjohn Co., box by Boxboard & Folding Carton Div., Weyerhaeuser Co.

Miscellaneous: Photographic supplies for Polaroid Corp., box by Sample-Durick Co., Inc. Scouring pad for Minnesota Mining & Mfg. Co., box supplied by the Waldorf Paper Products Co.

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For details and technical assistance on Reynolon films, contact the Reynolon Plastic Specialist in the Reynolds office in New York, Camden, Detroit, Chicago, St. Louis or Los Angeles. Or write Plastics Division, Reynolds Metals Company, P.O. Box 2346-RM, Richmond 18, Virginia.



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Three faces forward

[Continued from page 83]

years ago, when carton design was geared more closely to drug-store retailing. It carried a small halftone illustration of the bottle in light blue on one vertical panel, but also had a bold horizontal panel, containing only the name to meet retail drug-store preferences for stacking cartoned goods of this type sidewise.

A study of supermarkets by the company and the independent design firm assigned to the revamping job indicated that the function of the Bromo Seltzer package in the supermarket is primarily product and brand identification. The package here stimulates impulse buying by reminding the shopper that the bottle in her medicine chest is half empty and it must associate Bromo Seltzer with the advertising appeals to which she has been exposed. It was decided that a revised carton that would force upright positioning in the store, showing the blue bottle exactly as it appears when stored in the medicine chest at home, would be more effective.

The company feels that the threesided picture carton achieves the aim. The bottle illustration is executed in halftone reproduction as seen at eve level. To give full readability to the label, however, the new bottle label is shown flat, instead of in curved perspective as on the former carton. Another improvement, it is felt, is the greater emphasis to the word "Bromo" in a larger condensed Gothic type than the extended Gothic type face for the word "Seltzer," in order to avoid association with any competing seltzer product.

An economy was achieved by replacing two-color printing with one color. Instead of a former soft blue and black, combined as a duotone in the reproduction of the bottle, a brighter blue does the whole job on the new carton—with an effect which the company believes simulates more closely the actual color of the Bromo Seltzer glass bottle.

While every segment of the old design was changed, it was done in a way to prevent any loss of product identification. In fact, during the transition period, it was possible for dealers to keep both the new and the old packages on the counter at the same time.

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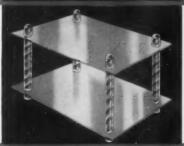
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DISTRIBUTORS IN VIRTUALLY all territories desired by manufacturer of portable and table model Hot Wire Cut-Off Dispensers with and without heat sealing equipment for new low melting point films, such as Saran, Reynolon, Polyethylene, Pilofilm, Vitafilm, Snug-Pak, etc. Also line of fabricated Tefion Covers for wrapping machines and hot plates. Products well accepted nationally. Repeat items. Advise territory when replying. Cutter-Seal Manufacturing Co., 4805 Elmhurst, Detroit 4, Mich.

PACKAGING ENGINEER—An exceptional opportunity with one of the leaders in the plastics industry. A challenging position with a variety of responsibilities. Will evaluate performance of new plastics films on commercial bag making and package overwrapping machinery at equipment manufacturers. Tavel 20% of time. Remainder of time will be spent in design, development, and redesign of packaging and production equipment. B.S.M.E. with at least two years of packaging equipment design experience necessary. Send resume to:—W. P. Engelking. Visking Company, Division of Union Carbide Corp., 6733 West 65th Street, Chicago 38, Illinois.

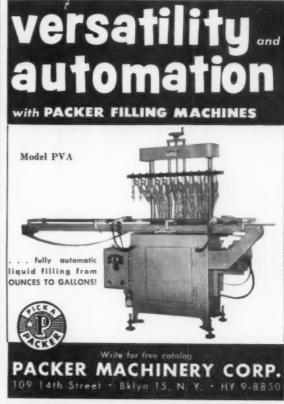
CUSTOMER SERVICE MGR Folding Cartons —Growth opportunity position for a man with a minimum of 5 years Folding Carton experience, preferably including estimating, pricing and sales service, and having a working knowledge of the printing arts. Duties include handling customer requests, inquiries, sample requests, internal sales follow-up; coordinating sales with production and pricing. Salary dependent on experience. For consideration, submit resume including salary requirements to: B. B. BROACH, Folding Carton Division, Standard Packaging Corporation, 640 7th Street, Louisville, Ky.

PLANT MANAGER—Minimum 5 years responsible experience in injection molding production. Due to unusual potential of this position, candidate should have above average capacity for broad personal growth. Location in Southern New England with young public-owned growth company. Opening due to promotion of present incumbent. Replies confidential, should include complete qualifications and salary requirements. Reply Box 1211, Modern Packaging.

CELLOPHANE EXPERT—To head our Cellophane Dept. Requirements: Sound background in cellophane casting and coating techniques; ability to produce with minimum supervision. Unlimited opportunity—depending entirely on individual initiative. Replies treated in strict confidence. Our employees have been advised about this advertisement. Submit detailed resume to Box 1212. Modern Packaging.

(Continued on page 202)







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(Continued from page 200)

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POLYETHYLENE FILM SALESMAN—Leading Extruder Blown and Cast Films with national distribution, requires man with Packaging background for intensive coverage Ohio, Pennsylvania area. Should be located eastern Ohio or western Pennsylvania. Rapidly expanding firm offers excellent opportunity. Please reply Box 1224, Modern Packaging.

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SALESMAN FOR PLASTIC INJECTION Modding firm to handle sales on straight commission basis. Fast growing company with over a million dollar sales. Territory greater New York, New Jersey, New England areas. Some proprietary items but anxious to develop others. Reply Box 1219, Modern Packaging.

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Strong creative ability. Pally Box 1222. quainted quainted with volume package b Strong creative ability. Reply Box Modern Packaging.

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Miscellaneous

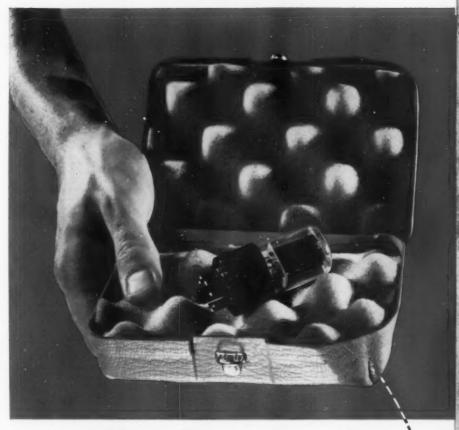
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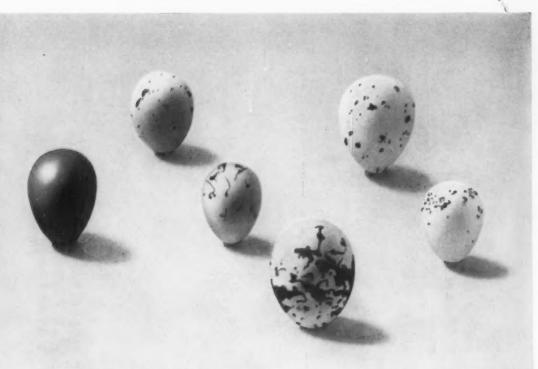
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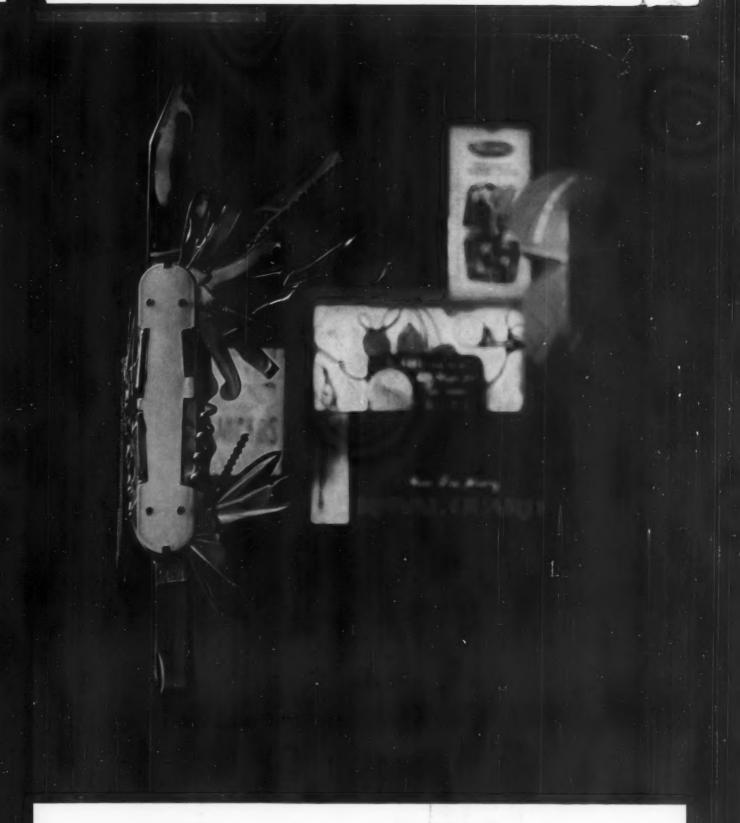




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